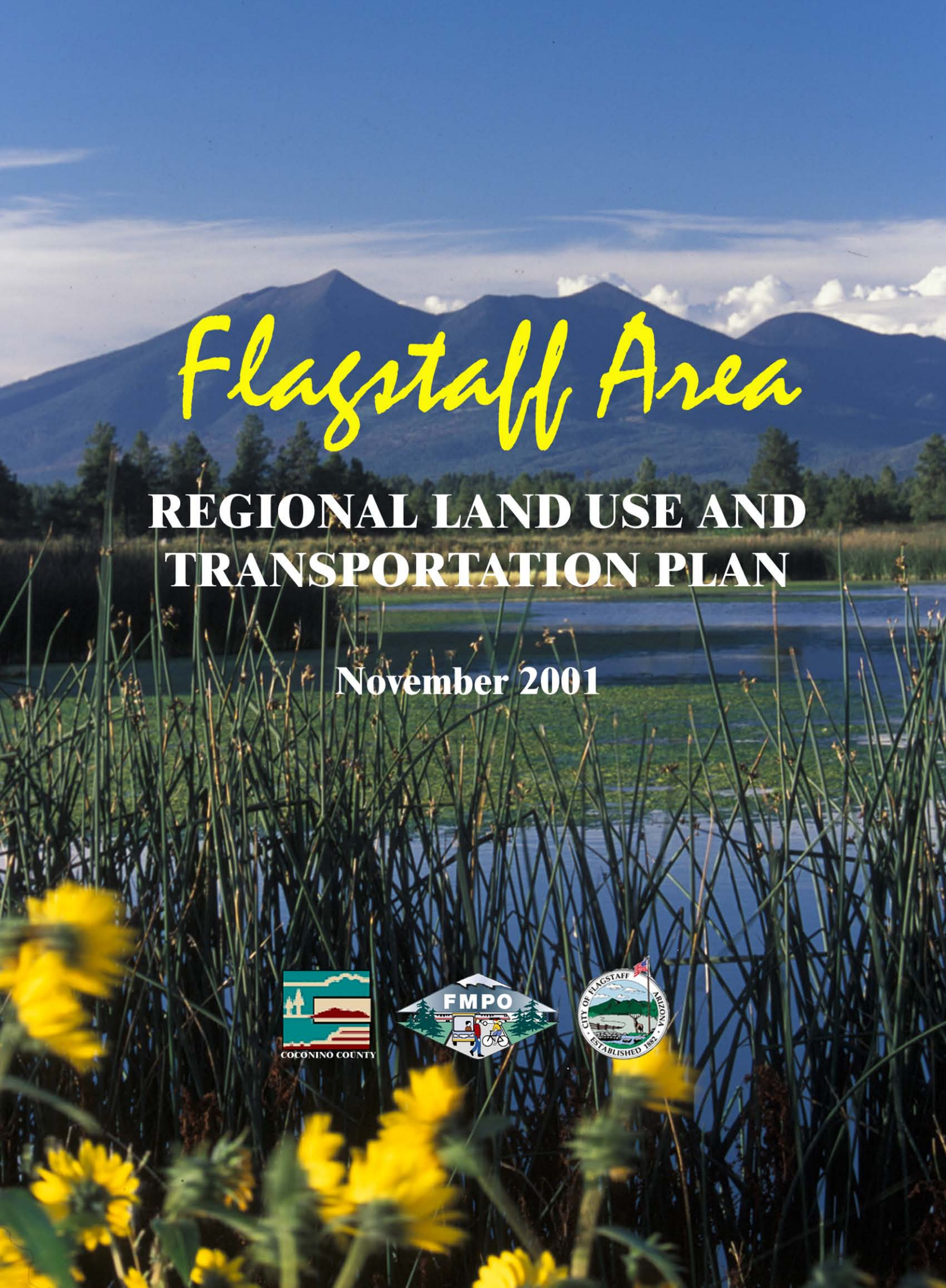

Flagstaff Area

REGIONAL LAND USE AND TRANSPORTATION PLAN

November 2001

COCONINO COUNTY

FMPO

CITY OF FLAGSTAFF ARIZONA ESTABLISHED 1882

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Tables and Figures

Acknowledgements

This Plan was realized through the vigorous and dedicated effort of many people in our Greater Flagstaff community. The members of the Regional Task Force represented a broad spectrum of organizations and businesses, and citizens with a diversity of values and cultures in the City of Flagstaff and the surrounding unincorporated communities. Their commitment will help us preserve and enhance what we value and move in a direction to revitalize our neighborhoods and create new livable environments based on the goals and policies contained in this Plan.

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The photography used on the cover and throughout the *Regional Plan* was provided by the students in Professor of Photography Gene Balzer's Northern Arizona University class of Corporate and Industrial Photography, fall semester of 2001. Cover photo by Marc Gillespie.

Introduction

The *Flagstaff Area Regional Land Use and Transportation Plan* (*Regional Plan*) is intended to guide future land use decisions in the City of Flagstaff and surrounding area, as defined by the boundary of the Flagstaff Metropolitan Planning Organization. The *Regional Plan* evolved from an extensive review of the existing physical conditions and planning influences of the region, analysis of a series of key policy issues to be addressed by the *Regional Plan*, discussions with citizens and elected officials about the community's vision for the future, and an analysis of possible future land use and transportation scenarios.

Over the course of 15 months, a core planning team consisting of City and county staff worked with a 28-member Regional Task Force consisting of city and county residents. The Task Force provided guidance and advice to the project team by identifying issues and concerns in the community, provided input to the planning policies, discussed tradeoffs represented by various land use and transportation scenarios, and helped to define and recommend a preferred plan.

During the course of the planning process, open houses were held as opportunities to obtain input from the public, to receive input on the planning process, to review issues and provide direction, to review conceptual land use and transportation scenarios, and to provide input on the preferred land use and transportation scenario.

Each generation makes its own contribution to the legacy of the region. The community's dream of how the region could and should be for the next generation is embodied in this *Regional Plan*. It is a statement of optimism and belief in the future, a statement that the region can become a better place. This *Regional Plan* sets forth an exciting vision by which the concerted efforts of both the public and private sectors will be directed. Its focus is on what the region could be 20 years from now.

Our vision is that Greater Flagstaff will have a compact land use pattern that shapes growth in a manner that preserves our region's natural environment, livability, and sense of community. By directing growth to well-defined contiguous areas, growth can be better accommodated without encouraging inefficient land use patterns; open lands and natural resources can be better protected; and public facilities and services can be delivered more effectively. With a finite supply of land, the *Regional Plan* shall provide for the region's growth in a manner that balances growth and conservation.

In accordance with Growing Smarter legislation that was enacted in 1998 and the Growing Smarter Plus package of 2000, the following provisions are addressed in the *Regional Plan* as indicated below:

- A.R.S. §9-461.06.G.—Major Amendments included under Amendments & Updates section.
- A.R.S. §9-461.06.J.—Update to the General Plan included under Amendments & Update section.
- A.R.S. §9-461.06.L.—Ratification of General Plan included under Amendments & Update section.
- A.R.S. §9-461.0.—Annexation–provide the annexed territory with appropriate levels of infrastructure and services to serve anticipated new development within ten years after the date when the annexation becomes final included in Community Facilities and Services Element.

- A.R.S. §9-461.06.M.—Designating State Trust lands as open space included in the Policy Framework Section under “Public Multiple-Use” description.
- A.R.S. §9-461.05.D.5.—Water Resources element included as Water Resources Element.
- A.R.S. §9-461.05.C.—Areas identified for growth and development and areas suitable for multi-modal transportation and infrastructure expansion and improvements designed to support a planned concentration of a variety of uses included in Land Use and Growth Management Element; Transportation Element; Open Space, Parks, Recreation & Trails Element; Natural and Cultural Resources and the Environment Element; and Community Facilities Services Element.
- A.R.S. §9-461.05.D.1.—Open Space inventory and forecasted needs included in Open Space, Parks, Recreation and Trails Element.
- A.R.S. §9-461.05.D.3.—Effects on air and water quality and natural resources included in Natural and Cultural Resources and the Environment Element.
- A.R.S. §9-461.05.D.4.—Cost of development that requires developers pay fair share of the cost of development included in Community Facilities and Services Element.
- A.R.S. §9-461.05.D.6.—Quality, variety and affordability of housing is included in the Land Use and Growth Management Element under “Housing and Neighborhoods”.

How the Regional Plan is Organized

The *Flagstaff Area Regional Land Use and Transportation Plan* is organized into five major planning sections, as outlined below. It also lays the stage with a description of the Greater Flagstaff region and background on the process used in developing the *Regional Plan*.

Regional Planning

Through the material and information presented in this section, Regional Planning, in general, and Regional Planning in the Flagstaff area provides the physical framework context for the shape the greater Flagstaff area is to take.

Underlying Principles

The principles, or themes, underlie and guide the urban and rural form of development balanced with the protection of open space at the regional level.

Policy Framework

The Policy Framework establishes the basic policy direction for the region based on the following elements:

- Land Use and Growth Management–Growth Areas, Housing and Neighborhoods, Commercial Development, Industry and Employment, Infill and Redevelopment, and Cost of Development
- Transportation
- Open Space, Parks, Recreation & Trails
- Community Character and Design
- Natural and Cultural Resources and the Environment
- Water Resources
- Community Facilities and Services
- Public Safety

The framework helps define the fundamental principles and basic policy choices necessary to guide growth and development of the region. For each element, the Policy Framework includes a set of goals, each goal supported by a set of policies to be pursued in attaining the goal, and strategies contained in an Implementation Action Plan that outline specific measures to be taken in implementing the policy to which they relate. An overview of existing conditions, description of the support system, and proposed programs is included also.

Amendments and Updates

In this section criteria are set forth by which to review amendments to Planning Reserve Areas and Growth Boundaries; and regulations are included for amending and updating the *Regional Plan*.

Maps

This section contains a series of plans, or maps, for the region covering physical features, ownership, land use, transportation, and supporting systems plans.

The Greater Flagstaff Region

Flagstaff, at an elevation of approximately 7,000 feet, is at the base of the highest mountains in Arizona. Situated on the San Francisco Plateau (a subdivision of the Colorado Plateau), the arched highland area forms the summit between the Little Colorado and Verde Rivers. Ten miles to the north lie the San Francisco Mountains, which include Humphreys Peak, the highest point in Arizona at an elevation of 12,633 feet. Farther to the north, eighty miles from Flagstaff, is the Grand Canyon.

The terrain slopes gently downward from Flagstaff for thirty miles to the east and northeast into the piñon-juniper vegetation, and then into the sagebrush-covered valley of the Little Colorado River. To the east lies the multi-colored Painted Desert. To the southeast lies high plateau country. Oak Creek Canyon begins fifteen miles to the south-southwest, connecting to the high plateau and the Verde Valley below.

The planning area encompasses 525 square miles extending north to Sunset Crater and the San Francisco Peaks, south to the communities of Kachina/Mountainaire, east to Winona, and west to Bellemont.

Gateway to National Parks and Monuments and Public Lands

Flagstaff serves as the primary gateway community to Grand Canyon National Park, Sunset Crater Volcano National Monument, Walnut Canyon National Monument, Wupatki National Monument, the San Francisco Peaks, Snow Bowl Ski Resort, ponderosa pine forest, and national forest lands.

Significant Growth in Arizona

The population growth in the state, and particularly in the Metro-Phoenix area, has continued at a significant rate. At the same time, the number of visitors to the Flagstaff region with its cooler temperatures, beautiful scenery, and recreational opportunities has also increased. Increased visitation to the area has affected the region's transportation system, open spaces and recreational areas, and national parks and monuments.

Transportation Hub

Flagstaff serves as the major transportation hub for northern Arizona with Interstate 40 (I-40) running east-west through the city and region and Interstate 17 (I-17) running south toward the Metro-Phoenix area. Consequently, traffic congestion, particularly along I-17, will continue to increase as the region and the state grow. The city's location at the intersection of I-40 and I-17 has attracted significant business, commercial, and residential development.

Open Lands

Flagstaff is surrounded by land under public jurisdiction as illustrated on the Ownership Patterns Map (Map 2). Nearly 75 percent of land in the Flagstaff Metropolitan Planning Organization (FMPO) is under jurisdiction of the U.S. Forest Service and National Park Service, 8 percent is under jurisdiction of the State Land Department, and approximately 3.5 percent is under the jurisdiction of the Navajo Army Depot. These lands are managed for a multitude of public recreational and economic uses. The vast majority of these lands at the further reaches of the FMPO boundary should remain intact as open lands.

Some areas of U.S. Forest Service land close to the city that are identified as low priority for open space retention may be subject to development pressure as a result of land exchanges,

but these areas do not constitute a significant portion of federal lands within the FMPO. It is expected that the large majority of Forest Service lands will remain under the management of the Forest Service. Of greater significance are the State Trust lands surrounding the city. There are more than 25,000 acres of State Trust land within the FMPO boundary, including more than 6,500 acres (10 square miles) within the city limits. These lands are subject to sale at public auction for development or other purposes. The timing of such action would likely be dependent on market pressures and the potential for their conservation, which will be influenced by the land use pattern established over the next 10-20 years, as well as the amount of private land available for development.

Background

The *Regional Plan* is an expansion of, and an update to, the existing city and county general and comprehensive plans, and brings these existing plans together to deal with the region as a whole. Previous to beginning work on the *Flagstaff Area Regional Land Use and Transportation Plan*, the citizens and organizations of the Flagstaff area embarked on a visioning process which is embodied in *A Vision for our Community—Flagstaff 2020*. Also underway at the time was a multi-government agency effort concentrating on the surrounding open spaces and national monuments. Their recommendations are contained in the *Greater Flagstaff Area Open Spaces and Greenways Plan*.

The Regional Planning process officially began in early 1998 when a consulting team was hired. City and county staff worked closely with the consulting team throughout the process as a core team, responsible for developing the *Regional Plan*. Over the course of 15 months, the core team prepared an inventory of the existing physical and socio-economic conditions of the region; developed a series of alternative land use and transportation scenarios; identified and discussed key policy issues to be addressed by the *Regional Plan*; prepared a preferred land use and transportation plan; and developed a policy framework.

Also in early 1998, the City Council and the County Board of Supervisors appointed a Regional Task Force consisting of city and county residents. From May 1998 until July 1999, the Regional Task Force met numerous times in order to accomplish its mission of (1) providing guidance and advice to the project team by identifying issues and concerns in the community; (2) providing input to the planning policies; (3) discussing trade-offs represented by various land use and transportation scenarios; and (4) helping to define and recommend a preferred plan. During the course of the planning process, open houses were held as opportunities to obtain input from the public. The first open house was held in July 1998 to explain and receive input on the planning process, review issues and provide direction, and review conceptual land use and transportation scenarios.

In February 1999, a comprehensive newsletter and questionnaire were prepared and mailed to all households in the region, providing information on the Regional Planning process, an upcoming open house, key policy issues, and three land use scenarios. Over 1,000 questionnaires were returned, providing critical input and direction for the planning process.

The second open house, which was held to review the three land use and transportation scenarios, lead to preparation and finalization of a preferred land use and transportation plan. A third open house was held in May 1999 to present and receive public input on the preferred land use and transportation scenario. A series of open houses were held in the summer of 2001 after the draft *Regional Plan* was published and distributed for public comment.

The Vision 2020 Process

Over an eighteen-month period in 1996 and 1997, thousands of Flagstaff citizens participated in a wide-ranging discussion about the future of this city. Through public meetings, surveys, focus groups, and other means of input, the community envisioned and plotted its future course to the year 2020.

The 2020 vision process engaged the greater Flagstaff community in thinking about where Flagstaff is today, where the community would like to be in the future, and how to get there.

The *Vision 2020* project emphasized the desire by the residents to initiate Regional Planning, protect open spaces, improve roads and traffic management (including the promotion of alternative modes of transportation), provide affordable housing and decent jobs, and consider redevelopment and infill as important parts of the development process.

The *Vision 2020* process helped citizens identify the trends and forces shaping the community. Through this process, citizens asked the City and county to work cooperatively on long-range planning. With the efforts of a regional task force, the *Flagstaff Area Regional Land Use and Transportation Plan* was developed.

Through the *Vision 2020* process, values of Flagstaff's region are reflected in a shared vision and set of community-driven key goals including:

- Managing growth by containing it within growth boundaries
- Reducing urban sprawl
- Protecting State Trust and Forest Service lands
- Placing development close to public transit; providing access for pedestrians and bicyclists; and developing an enhanced road system for good traffic flow
- Implementing strong development standards
- Promoting mixed-use residential/commercial development, such as homes above businesses
- Applying design guidelines
- Establishing people-oriented neighborhoods
- Providing affordable housing
- Emphasizing infill development which helps increase housing availability in existing residential areas
- Providing accessible neighborhood parks and greenways in and around the community
- Protecting wildlife habitat
- Establishing master-planned industrial zones
- Establishing activity centers that residents can be proud of
- Preserving historic, archaeological, and cultural resources

Vision 2020's goals are the foundation for the *Regional Plan*.

Flagstaff Area Open Spaces and Greenways Plan

The *Greater Flagstaff Area Open Spaces and Greenways Plan* (*OS&GW*) is the product of an undertaking by the City, county, Arizona State Land Department, Arizona Game & Fish Department, National Park Service, and the Coconino National Forest, and citizens of the city and surrounding communities. The Plan identifies sensitive natural areas and outlines a regional strategy for preserving them.

Regional Planning

Regional Planning is an approach that tackles the issues of sprawl, traffic congestion, and loss of open space, as parts of a cohesive whole not as separate problems, and recognizes both the region and the neighborhood as integral to building successful environments in which to work and live.

Flagstaff's growth dynamics are not bound by its jurisdictional boundaries, but are regional in nature extending to the surrounding areas of Fort Valley, Bellemont, Kachina/Mountainaire, Winona, and the Doney Park communities. The issues and problems confronting the greater Flagstaff area are also regional in nature, crossing the borders of the infrastructure systems of transportation, parks and recreation, fire protection, housing, water resources, and the provision of community facilities and services.

Regional Planning is about reducing sprawl, but the *Regional Plan* cannot succeed unless policies are tied to regional transportation, open space strategies and a new design ethic at the scale of neighborhoods. Repair and revitalization of neighborhoods takes on the emphasis and not so much at creating new places.

Many homebuyers now desire compact, walkable neighborhoods supported by urban services. Regional Planning policies encourage more compact development patterns that allow the creation of a wider variety of housing types and daily living patterns better suited to the demographic patterns and lifestyle preferences of Americans today.

Regional Planning delineates where development may happen and where it should not. In our region, the *Greater Flagstaff Open Spaces and Greenways Plan*, developed prior to the *Regional Plan*, designated lands to be retained as open space. Growth boundaries may be used to set a limit based on the land capacity (at a given growth rate and density) needed to house a growing population. It is not enough simply to draw a line to protect natural resources without also developing and implementing policies inside the lines to accommodate the expected urban growth.

The policies contained in the *Regional Plan* are based on these multifaceted endeavors of regional and urban and rural growth boundaries and the designation of the retention of open spaces.

The regional vision and goals are to save land; to reduce the need for cars; to use investments efficiently; to conserve resources; to foster connections across age, income, and class; and to support socio-economic equity and opportunity.

The Flagstaff Area Regional Plan

Technically stated, the *Flagstaff Area Regional Land Use and Transportation Plan* is a **comprehensive** or **general plan**. It embodies long-term policy determination and guiding principles. General plans are not static documents; they recognize growth as a dynamic process, which will require revisions to the plan as circumstances, prudent, and compelling reasons warrant. A **zoning ordinance**, on the other hand, provides the detailed means of giving effect to those principles. Zoning must be based on and be consistent with planning policies. In Arizona, state statutes require that:

> "…each planning agency shall prepare and the legislative body of each municipality shall adopt a comprehensive, long-range general plan for the development of the municipality."

To a large extent, the *Regional Plan* is a result of the Flagstaff 2020 Vision process. The Vision 2020 process, which spanned 1996 and 1997, helped citizens identify the trends and forces shaping the community. Through this process, citizens asked the City and county to work cooperatively on long-range planning. With the efforts of a regional task force, the *Flagstaff Area Regional Land Use and Transportation Plan* was developed.

The process of community involvement that defined Vision 2020 was instrumental in placing the *Regional Plan* at an advanced phase for its preparation. With the visioning, goal setting, and action planning that took place as a part of the Vision 2020 process, of its four guiding questions: "Where are we now?, Where are we going?, Where do we want to be?", it was the fourth one, "How do we get there?" on which the *Regional Plan* could concentrate. The *Regional Plan* carries forward the vision that was articulated, and that is, that growth is carefully controlled and directed through local and Regional Planning to enhance the community's livability.

Also setting the stage for a land use and transportation plan on a regional level was the multi-governmental agency *Greater Flagstaff Area Open Spaces and Greenways Plan*. As with Vision 2020, this Plan was completed just prior to the commencement of the Regional Planning process. This Open Spaces Plan identified lands around the developed and urbanized areas in the greater Flagstaff community for their value as open space. Because of this process that preceded the *Regional Plan*, there already was shared agreement on open space protection when the time came to designate lands for development.

These two plans, along with an inventory of the existing physical and socio-economic conditions of the region, and with extensive public participation and input from the community, led to the development of alternative land use and transportation scenarios. From here, the preferred land use scenario, e.g., compact form, was decided upon that reflects the goals to be attained as stated in the policy framework. Completing the policy framework are policies and strategies that are used to guide and determine decisions for a course of action with specific measures that may be used to implement a policy.

This new, joint City-county *Flagstaff Area Regional Land Use and Transportation Plan* will guide the community toward the future it prefers in the year 2020. This plan advances the process in which the greater Flagstaff community created a vision, goals, and action plans that will balance social well-being, economic health and environmental quality in the ongoing growth and development of the community.

The *Regional Plan*:

- Articulates long-range development goals for the community, against which shorter-term zoning decisions and administration can be measured.
- Is a framework within which to function and make recommendations.
- Is a statement of goals and a listing of policies and strategies centering on approaches affecting the rate and location of growth and development, amenities, conservation, and focusing the community's resources on specific actions.
- Is used to determine proposed development compatibility.
- Serves as a basis for further studies, master plans, and other tools needed to carry out policies.
- Serves as a guide to decision making. It provides the means for guiding and influencing the many public and private decisions that create the future city or community.
- Is a legal requirement.

Application of Regional Plan

The *Regional Plan* consists of a variety of maps with explanatory text derived, to the maximum extent possible, from the policies contained in the *Regional Plan*. Of the series of plans contained in the *Regional Plan*, the Land Use Plans and Roadway System Plan are graphic interpretations of the long-range development goals and policies as set forth in the Policy Framework. Because the maps are derived from a policy plan, they should be viewed as a guide to decision making and not as an unalterable commitment to new land use development or to a particular zoning change. The uses shown on the Land Use Plans are the predominant uses for an area and do not preclude secondary uses. If there is a conflict between the maps and the policy statements, the written text shall prevail.

The Land Use Plans designate recommended land use patterns. For this reason, the designations are by density ranges or by land use types, not by specific zoning categories. The Land Use Plans function as a development guide by identifying compatible land uses within a given area. Specific proposals are not automatically compatible with surrounding development simply because they fall within a broad land use designation. Rather, factors such as scale of the proposal, the intensity of the specific use, its proximity to other types of uses, the probability of alternative development on the site, the proposal's influence on traffic patterns and the physical environment, and its economic and fiscal impact to the local community and the city as a whole must be weighed when a land use decision is to be made. Because so many variables must be considered, it is preferable to employ broad land use designations as a means of establishing patterns, rather than using a specific site approach.

The Land Use Plans should reflect the most preferred land use pattern, with specific proposals being judged against that standard. Note, however, that proposals for land use change will be evaluated in light of the factors listed above, policies contained in the *Regional Plan*, in addition to the Land Use Plan designation. If these factors indicate that the change is warranted, then a "compelling reason" to approve the proposed development, rehabilitation, or preservation may be established. Case-by-case review of proposals within the guidelines of the *Regional Plan* is the operating procedure for making land use recommendations. Among the various land use categories contained in the *Regional Plan*, the category of Planning Reserve Area (PRA) is one that bears specific note. After numerous public meetings, the PRAs were mapped at a required average density of three, five, and seven dwelling units per acre. Proposed changes to these density designations bear the burden of clearly demonstrating a compelling reason for the change to occur.

Underlying Principles

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Photo by Gregory Richards

Vision and Objectives

Each generation makes its own contribution to the legacy of the region. The community's dream of how the region could and should be for the next generation is embodied in this *Regional Plan*. It is a statement of optimism and belief in the future, a statement that the region can become a better place. This *Regional Plan* sets forth an exciting vision by which the concerted efforts of both the public and private sectors will be directed. Its focus is on what the region could be 20 years from now.

The vision is that Greater Flagstaff will have a compact land use pattern that shapes growth in a manner that preserves our region's natural environment, livability, and sense of community. By directing growth to well-defined contiguous areas, growth can be better accommodated without encouraging inefficient land use patterns; open lands and natural resources can be better protected; and public facilities and services can be delivered more effectively. With a finite supply of land, the *Regional Plan* shall provide for the region's growth in a manner that balances growth and conservation.

Regional Planning and Cooperation

The cornerstone of the *Regional Plan* is intergovernmental cooperation. The City of Flagstaff and Coconino County, by initiating this planning process, have made a strong commitment to work together in achieving regional land management objectives. The success of the *Regional Plan* will require that this cooperative approach continue and extend to include federal and state land management agencies as well.

In undertaking a joint planning process, the City and county recognized the difficult planning challenges that faced them as the city and the surrounding communities experienced rapid growth. They knew that better coordination was needed to address critical growth issues, such as transportation, urban development, open space protection, and provision of infrastructure. Rather than taking a strictly jurisdictional approach, the *Regional Plan* addresses these issues with the broad objective of solving the problems to mutually benefit the two entities. For example, urban development, with higher intensities and densities of use, are to be located in the city where infrastructure and services are available to support them; with lower density and intensity developments being appropriate for the county communities.

Preceding the *Regional Plan*, the City, county, and the Coconino National Forest, in collaboration with other federal and state entities in the region, engaged in a three-year long process to develop the *Greater Flagstaff Area Open Spaces and Greenways Plan.* This plan and its "greenline" boundary of designating lands with high priority for retention as open space, serves as the basis for the Urban and Rural Growth Boundaries. The consensus reached through this planning effort lead to a Memorandum of Understanding (MOU) which all the parties entered into, recognizing that the "…complexity of retaining and managing lands for multiple-uses close-in to urbanized areas requires an inter-governmental approach.…" Further, that the participants to the MOU "…mutually agree to pursue incorporating the Plan into their relevant plans, policies, and regulations" and that "each participant will cooperate in carrying out activities to facilitate identification and action that further the purposes of this MOU."

U.S. Forest Service

Because of the critical role and due to the land size (380 square miles in the region) and location (21.4 square miles within the city limits) that Forest Service lands play in the Flagstaff region, cooperation and coordination between the Forest Service and the City and the county will be primary determinants in the management of growth. It is recognized that managing growth and maintaining growth boundaries as proposed in the *Regional Plan* will be made more difficult if the Forest Service exchanges lands that have been designated for open space.

Once developed, the lands adjacent to the urban interface wildlands (Forest Service lands that abut development which vary based on topography, vegetation, and other wildlife resources, and the nature of the development), impact adjacent Forest Service lands. With more "space" and distance between urban development and Forest Service lands there are fewer management conflicts. But exchanging these lands to private parties simply provides more land for development, oftentimes without the provision of adequate urban infrastructure services. Development will keep "following that space" and, in effect, expanding the size of a city or community. It means development always at the "doorstep" of Forest Service lands with nothing, ultimately, having been gained for the Forest Service. This clearly shows that the issue of managing growth is a mutual one that needs to be addressed by both local and federal entities.

The *Regional Plan* designates the Forest Service lands as Public Multiple-Use, which are public lands managed for public recreational and economic uses, exclusive of urban uses. These lands can serve as buffers, quiet areas, wildlife habitat or scenic areas.

These Public Multiple-Use areas serve as buffers to the significant landmarks surrounding Flagstaff and adjacent communities. Mt. Elden, Turkey Hills, Sunset Crater, Walnut Canyon, Rogers Lake, and A-1 Mountain are immediately adjacent to, or within three miles of, Flagstaff or surrounding communities. These defining landmarks can be protected to a large degree by managing the impacts on them through the absorption of users on the buffers and assuring that the buffers are not developed.

While residents of Flagstaff and the adjacent communities are fortunate to have the adjacency of vast open spaces, protecting them becomes critical and more difficult as the community grows and the impacts on the federal lands become more intense. To the extent that the Forest Service can commit to the City and county to continue its efforts to collaborate and support the policies of the *Regional Plan* by protecting the urban interface and buffer areas, addressing this issue multi-jurisdictionally does not impose the practices of one jurisdiction on the other. Rather, each is working toward the same goal of protecting and managing the buffer areas for open space and resource objectives.

By managing Forest Service lands for their traditional uses, and with the City and county managing and containing growth within designated areas, numerous goals can be attained. By making it clear where development is expected to occur and where it is not to occur, the City and county present the Forest Service with a framework for long-term planning and management of public lands and provision of the services that are most compatible with adjacent development.

The Forest Service lands would also receive a greater degree of protection as it considers the future management of the Forest Service lands for recreation purposes. The Coconino National Forest is updating its Forest Plan. The FLEA (Flagstaff Lake Mary Ecosystem Analysis) is a proposed action to amend the Coconino Forest Plan. After the public input period, it is expected that a final decision will be made spring/summer 2002. Depending on the final outcome, a management area for the lands surrounding Walnut Canyon National Monument may be incorporated in the Forest Plan to provide for a combination and mix of uses and management practices, including the protection of its resources.

National Park Service

Walnut Canyon

There are two national monuments in the greater Flagstaff region: Walnut Canyon and Sunset Crater. Sunset Crater lies east and north of the highly developed communities of Doney Park. The Monument consists of lava flows, volcanic cinder cones and craters. It is a relatively pristine and undisturbed environment.

The national monument boundaries of Walnut Canyon are contiguous to the city limits of Flagstaff. The lands surrounding the monument consist mostly of Forest Service lands with a few State Trust sections. Walnut Canyon National Monument was created by the U.S. Congress for the protection of the pre-historic archaeological ruins located here. Some of the activities people use the surrounding lands for include: hiking, rock climbing, dispersed camping, picnicking, snowmobiling, horseback riding, hunting, biking, dog walking, and jogging. Forest commodity uses include firewood cutting, Christmas tree cutting, plant gathering, and livestock grazing.

Protection of Walnut Canyon and the surrounding area is a high priority. The City, in conjunction with private interests, is in the process of protecting the State Trust lands in the area. A state-wide program, called the Arizona Preserve Initiative, allows for the petitioning of trust lands for conservation purposes, and it is expected that the City and county will use the Arizona Preserve Initiative to protect the State Trust lands in the region. Petitions to reclassify the lands to the status of “worthy of preservation” will be filed. In the Walnut Canyon area, should the lands’ designation be changed to conservation, the City could purchase the state lands for open space purposes and prevent their future development.

In addition to the existing Arizona Preserve Initiative, there is also the possibility of these lands being protected via a proposed statewide initiative should it be successful in a future election.

The Walnut Canyon National Monument boundary was expanded in 1997. A monument expansion is again being proposed. Any future expansions would require the cooperative involvement of the National Park Service, the Forest Service, the State Land Department, the city and county, with a comprehensive public outreach effort to determine local level of support. Public concerns about continued access and recreation have been raised in the past and they would have to be adequately addressed when considering a monument expansion. With the proposed Urban Growth Boundary of the *Regional Plan*, future development would not extend into any recent and past-proposed expansion boundaries.

In the meantime, it is proposed to protect natural and cultural resources around the Monument by simultaneously pursuing appropriate expansion of Walnut Canyon National Monument and undertaking measures to formalize inter-reliant commitments by the various federal, state and local governmental entities. The City and county commit to providing the Forest Service with the support it needs to manage the intervening lands between the Monument and the Urban Growth Boundary in a manner that protects and mitigates impacts on the natural and cultural resources. To formalize each entity's commitment, the objectives and intent are to:

- Pursue and enter into an Intergovernmental Agreement with the various land managers to identify and confirm the issues and commit to addressing them in order to protect the natural and cultural resources in the urban interface area.
- Support Forest Service efforts to manage the urban interface to mitigate future potential external threats to Monument resources through its FLEA process and amendment to the Forest Plan. The lands are being considered for recreation use with restricted motorized use.
- Designate and require access points from developed or to be developed areas onto public lands.
- Provide a transition zone of open space or low-density from higher density. development where adjacent to public lands.
- Support the National Park Service in its efforts to monitor the use of and impacts on the natural and cultural resources.
- Pursue Arizona Preserve Initiative re-designation of State Trust lands as suitable for conservation purposes.

Arizona State Land Department

State Trust Lands

Land ownership within the Flagstaff Metropolitan Planning Organization (FMPO) is dominated by public holdings—greater than 85% (Map 2: Ownership Patterns), and 72% of the public holdings lie within the Coconino National Forest. Generally, the privately-owned lands are located along and adjacent to the major state and U.S. highways crisscrossing the area. Table 1 provides a detailed breakdown of the land ownership within the FMPO.

Table 1: Land Ownership

Owner	Acres	Percent
Public Multiple-Use Lands		
Coconino National Forest Lands	243,005	72.24
State Trust Lands	25,627	7.62
Navajo Army Depot Lands	12,017	3.57
Walnut Canyon National Monument	3,228	.96
Sunset Crater National Monument	3,048	.91
County Land	374	.11
Other	705	.21
Total Public Lands	**288,004**	**85.62**
Total Private Lands	**48,375**	**14.38**
Total FMPO	**336,379**	**100.00**

Although not as a significant amount as Forest Service lands, the State Trust lands do figure significantly in the *Regional Plan*. These lands are subject to sale or lease and eventual development. Some of them have been designated for development; but the majority of them

are preferred for open space preservation and have been categorized Public Multiple-Use. Most are surrounded by Forest Service lands and serve as part of a larger landscape of critical vegetation and wildlife habitat and corridors. Means by which to conserve State Trust lands have to be pursued and can take various forms, such as fee title acquisition, potential trade, or set-aside through legislative action.

Compact Land Use Pattern

The policies in the *Regional Plan* are based on the principles and vision of a compact land use pattern that shapes growth in a manner that preserves our region's natural environment, livability, and sense of community. By directing growth to well-defined contiguous areas, growth can be better accommodated without encouraging inefficient land use patterns; open lands and natural resources can be mutually protected; and public facilities and services can be delivered more effectively. With a finite supply of developable land, the *Regional Plan* provides for the region's growth in a manner that balances growth and conservation.

Efficient Use of Land

Land in the Flagstaff region suitable for development is a limited resource. By adopting a compact development pattern that uses our land resource efficiently, we can ensure that we provide for the long-term needs of the area's development, while at the same time achieving a more cost-effective and efficient provision of urban services. A compact land use pattern encompasses a designation and application of the following techniques to achieve it.

Appropriate Land Use Patterns

Land use patterns in the region shall be planned in a manner that promotes efficient use of land. By focusing our land use patterns through development of walkable, mixed-use neighborhoods, areas attractively planned for employment and commercial uses, and infill and redevelopment where appropriate, development of the region will result in an improved living environment.

Preservation of Open Lands

The forested lands and meadows throughout the region are a precious resource that all agree must be preserved and maintained. A more compact land use pattern will help ensure that these lands surrounding Flagstaff are not threatened by development. At the local scale, a compact development pattern can preserve land for open space within the city as well.

Mobility and Transportation Choices

Our region's development pattern must support a diverse range of transportation choices for residents and visitors, including walking, bicycling, transit, and driving. The public and private sectors will cooperate in the development of a multi-modal transportation system that balances mobility across all of the modes and gives citizens a greater range of alternative means of travel for different purposes.

Greater Opportunities for Affordable Housing

By supporting a more compact, mixed-use pattern of development, our neighborhoods can provide a greater range of options for housing types in more areas of the region.

Promote Quality Design

The *Regional Plan* supports quality design and development. Emphasis shall be placed on quality design both in the public realm—our streets, civic buildings, and other public spaces—as well as the private realm—commercial buildings, work places, and housing.

Preserving Rural Character

Residents of our rural areas in the county have expressed a strong desire to preserve the rural character and lifestyle they currently enjoy. These characteristics include rural densities, access to national forest lands, scenic views, and clear night skies. The *Regional Plan* must recognize the clear distinctions between the region's urban and rural areas and incorporate strategies to protect and enhance the rural character.

Economic Development Opportunities

The *Regional Plan* must be supportive of a healthy, thriving economy that provides opportunities for quality employment with livable wages for its residents. Locations for environmentally responsible employers who make a positive contribution to the community and the economy must be a part of the land use pattern of the *Regional Plan*.

Infill & Redevelopment

The *Regional Plan* identifies several areas in the city as appropriate locations for sensitively designed mixed-use development, either as infill on undeveloped properties, or as redevelopment. These areas include Southside, Sunnyside, and Downtown, and others depicted as per the land use category and included on the Redevelopment Area map, and to be considered infill incentive districts making use of the provisions in the state statute to encourage redevelopment in the districts.

Infill means the development of new housing or other buildings on scattered vacant sites in a built up area. This may also include living units above garages or other buildings. *Redevelopment* means the replacement or reconstruction of buildings that are in substandard physical condition, or that do not make effective use of the land on which they are located. If properly designed, infill development can serve an important role in achieving quality, mixed-use neighborhoods. In some instances, sensitively designed, high quality infill development and redevelopment can help stabilize and revitalize existing older neighborhoods.

Mixed-Use Development

Mixed-Use development is another critical element to managing growth in the Flagstaff area. The *Regional Plan* describes the rationale in the following terms: Land in the Flagstaff region suitable for development is a limited resource, and land use patterns should be planned in a manner that promotes efficient use of land. By focusing development as walkable, mixed-use neighborhoods, areas planned for employment and commercial uses, and infill and redevelopment where appropriate, development of the region will result in an improved living environment.

As our population ages and families get smaller, people are demanding different types of housing. Apartments are not primarily the domain of low-income people, although attached housing is a viable means to provide affordable housing. People choosing to live in apartments do so for a variety of reasons. Many apartments offer the same upscale amenities found in single-family homes. Apartments are most often located convenient to work places.

The *Regional Plan* designates new development areas within the Urban Growth Boundary for development as mixed-use neighborhoods. The criteria for these areas include a mix of mutually supportive and integrated residential and non-residential land uses, and a network of interconnected streets, and pedestrian and bicycle connections. The policy is to designate land for all types of housing to foster affordable housing, and to reduce reliance on the automobile by promoting pedestrian-oriented design.

The Mixed-Use category is a combination of residential and non-residential land uses. It may have an emphasis of either residential or non-residential. The objective is to mix the two to provide districts of housing, shopping, and employment. The uses may include those of the various residential categories of the Land Use Plan, as well as other uses as described in the land use categories of Commercial Neighborhood, Commercial Regional/Community, Office/Business Park/Light Industrial, Industrial Light/Medium, Institutional, Parks, and Open Space.

Areas designated Mixed-Use in the *Regional Plan* include lands in the West Side, and may include others, such as McMillan Mesa and Canyon del Rio, as well as future areas identified as Planning Reserve Areas and others within the Redevelopment corridors; particularly, existing older neighborhoods, such as Southside, Sunnyside, and parts of downtown, which may be suitable for limited and sensitively designed mixed-use development.

Lands within Canyon del Rio, which are State lands within Section T21N R7E Section 24, are currently planned for Mixed-Use neighborhoods as a part of a new residential growth area for Flagstaff's East Side. The West Side is planned as a major new center for employment and mixed-use neighborhood development, in the area near Highway 66 and Woody Mountain Road.

Growth Boundaries

The *Regional Plan* designates Urban and Rural Growth Boundaries with sufficient land inside the boundaries to meet the residential, industrial, commercial, institutional, and recreational needs of the communities for the next 30 years and more.

The primary purpose of growth boundaries is to limit sprawl and help protect the open spaces, primarily agricultural lands. They establish predictability as to where development will occur. The Urban Growth Boundary (UGB) assures that growth occurs in areas where services can be efficiently provided within the city. By assigning lands for urbanization, market demand for housing needs can be met; a diverse range of transportation choices can be provided; and a greater range of housing types may be allowed. The Rural Growth Boundaries are meant to keep county regional communities from growing together, and to continue to provide access to the adjacent public lands.

It is expected that containing growth within a boundary area means less environmental damage from sprawl. By fostering predictable growth and areas for growth and by protecting valuable open space lands, development can be better managed. Urban Growth Boundaries are considered an effective tool by creating more certainty in the decision-making process, making it clear to government officials, real estate developers, financial institutions, property owners, and residents where development may occur. The concept enables communities to plan expansion in services and infrastructure to support future housing needs while limiting urban sprawl and keeping housing costs down.

Without a growth boundary, vast amounts of viable land will be consumed, such as lands that are ecologically valuable in the region, including washes, canyons, mountains, steeply sloped hillsides and mesas, riparian areas, volcanic cinder cones and calderas, and their protective buffers. The natural geographic features and the boundaries that may be drawn around them surround the urbanized area of Flagstaff and adjacent rural communities. These significant geographic features are not only worthy of the highest protection, but serve as growth controls. At the edges and periphery of these mountains, cinder cones, and canyons are lands that as buffers are also worthy of some level of protection from encroachment by development. Protection of these lands involves a multi-faceted determination that is based on many factors, such as the function of the area surrounding the feature in terms of resources, vegetation,

habitat, and wildlife usage; and the potential impact from nearby users and others. Growth was starting to have an impact on these areas; consequently, the broad-based, but comprehensive study, of these lands which was undertaken by the numerous jurisdictions in the region, resulting in the *Greater Flagstaff Open Spaces and Greenways Plan (OS&GW)*.

The initial decision to have Urban and Rural Growth Boundaries, or an ultimate "build-out" community, was formulated on the *OS&GW Plan.* The question now is how best to grow out to that open space boundary, or "greenline", and what best measures to employ to assure the optimum land use pattern internally while mitigating any potential negative impacts, such as a high cost of housing.

Similar to the City's current Urban Service Boundary that has been in place since 1982, the proposed Urban Growth Boundary assigns lands for urbanization where infrastructure services and facilities can be efficiently provided. While both the Urban Growth Boundary and the Rural Growth Boundary are tools to direct and contain growth, the Urban Service Boundary was developed to identify and separate developable urban land from rural land. It was partly based on utility constraints, limiting water service to areas below 7,000 feet in elevation and conveyance of sewer by gravity flow. The Urban Service Boundary consists of approximately 33 square miles of land.

The Urban Growth Boundary will now replace the current Urban Service Boundary. The UGB works regionally in tandem with the Regional Land Use Plan and the Rural Growth Boundaries in the county, and the *Greater Flagstaff Open Spaces and Greenways Plan* in protecting critical landmarks such as Mt. Elden and Walnut Canyon. The Rural Growth Boundary is meant to protect A-1 Mountain, Turkey Hills, Rogers Lake, Dry Lake and other landmarks. The UGB is a means by which to separate urban lands from peripheral open space lands. There are 43 square miles of land within the Urban Growth Boundary.

The *Regional Plan* recognizes that it is in the best interests of land management entities that the City and county manage and contain growth for the protection of these lands. However, the state and federal governments who have jurisdiction and management of these lands will have to work in concert with the City and county to maintain these lands as open space for the very reasons that development is being directed away from them by the City and county. The City and county realize the hierarchical mandates that they operate under, and that the state and federal governments may sell or exchange lands that eventually become developed. However, this can lead to unplanned growth, sprawl, and development of lands that have been selected for open space protection. It also leaves the City and county without the ability to manage their growth and development patterns as its citizens have requested.

Planning Reserve Areas and Required Average Densities

The Planning Reserve Areas (PRAs) are generally at the periphery of urbanized areas, with the city limits extending beyond the PRA anywhere from one-half mile to three miles, specifically to the north and south. The PRAs are to accommodate a range of densities and other non-residential uses. These lands do not currently have City services, but they are generally close to existing development and available urban services.

The PRAs are comprised of Stage 1 lands of the Urban Growth Boundary and as well include lands within Stage 2. These lands are considered suitable for future urban development, are not currently serviced with infrastructure, with the understanding that some of the areas are to be preserved for urban open space. These PRA lands have been designated as low priority for retention as open space in the *Greater Flagstaff Area Open Spaces and Greenways Plan.*

Stage 2 lands are publicly-owned (State Trust) or managed (U.S. Forest Service); Stage 1 lands are primarily privately-owned lands and are considered priority areas for urban development in the near-term—for the next 20-25 years. The *Regional Plan* establishes a Stage 2 Urban Growth Boundary for development beyond a 20-year horizon, or at such time that it can be demonstrated that Stage 1 land supply is less than a 20-year supply, per the procedures outlined in the UGB Amendment section of this *Regional Plan*, The Urban Growth Boundary coincides with public lands identified in the *Greater Flagstaff Area Open Spaces and Greenways Plan* as high priority lands for open space.

Per the *Regional Plan*, the PRAs are recognized as having the potential to develop at urban densities requiring a full range of urban infrastructure and services. Those parcels of more than 35 acres within the PRAs shall attain a required average density of either three, five, or seven dwelling units per acre as mapped on the Land Use Plan. For those PRAs mapped on the Land Use Plan maps at a density of three or five, the required average density serves as both the minimum and maximum. For the PRAs mapped at a required average density of seven dwelling units per acre, the required average density of seven is the minimum, with no maximum density designated.

Developments will be designed to reduce the amount of land consumed, facilitate the protection of urban open space, and to ensure that future urban development utilizes land and infrastructure efficiently. Before being considered for development, lands designated as PRAs must be reclassified and rezoned for specific land uses and densities. Unlike the other lands within the city limits, these lands do not have a specific land use plan designation, such as residential, commercial, or industrial. Development master planning is required before re-designation to other land uses.

Without achieving a required average density, land will likely be developed at very low densities and consumed at a much faster rate, thereby diminishing the land supply. With a required average density, the land use pattern of walkable neighborhoods, for example, is achieved and consequently, there is more time to garner resources and means by which to protect surrounding open spaces. A required average density also helps in maintaining an affordable housing stock as attached housing units and smaller lots are used for construction.

Design Guidelines

Even more important than the issue of densities is the overall greater objective that is trying to be achieved for the Flagstaff community, and that is, livable, walkable neighborhoods and protection of the character of the Flagstaff area. Protecting the human and natural environment of the area was a primary goal of the Flagstaff 2020 Vision:

> "Greater Flagstaff manages and shapes growth in ways that preserve our region's natural environment, livability and sense of community.
>
> Develop and adopt an inter-jurisdictional community design plan and guidelines for how the greater Flagstaff community will grow to protect natural beauty and resources.
>
> Flagstaff promotes community design and employs design standards that reflect and enhance the community's unique history, cultural, and natural and built environments."

The *Regional Plan* promotes neighborhoods that are made up of land use patterns combining a mix of land uses, vertically and horizontally; a variety of housing types, close to commercial areas such that they are accessible by pedestrians and bicyclists; with common areas and activity centers where people can gather; and where quality design makes open space an integral component, all of which are attributes found in Traditional Neighborhood Design developments.

To advance and promote the development of Traditional Neighborhood Design in the Planning Reserve Areas or the new development or redevelopment of existing areas, a system of regulatory and procedural incentives will be provided. To determine whether a new development or redevelopment area constitutes a Traditional Neighborhood Design, the list of attributes found in the glossary definition "Traditional Neighborhood Design" will be used.

Through the policies contained in the *Regional Plan*, design is recognized as a critical element to making higher densities of housing an attractive alternative. Making new buildings appear as if they belong and blend in an area, or renovating and converting old buildings into apartments and lofts are part of the appeal of an apartment lifestyle. In addition, a compact form of development as described helps support alternate modes of transportation and transit.

Creating livable neighborhoods may be accomplished through design guidelines operating at three different levels: neighborhood, site, and building as proposed in the Flagstaff Design Guidelines.

- Neighborhood design guidelines focus on integrating individual projects with broader community development objectives.
- Site design guidelines address the manner in which a building is placed on its site and in which site functions are organized.
- Building design guidelines address the basic, mass, scale and materials of buildings.

The physical design policies are an underpinning to end sprawl and bring shape, form, livability, and functionality to the region.

Policy Framework

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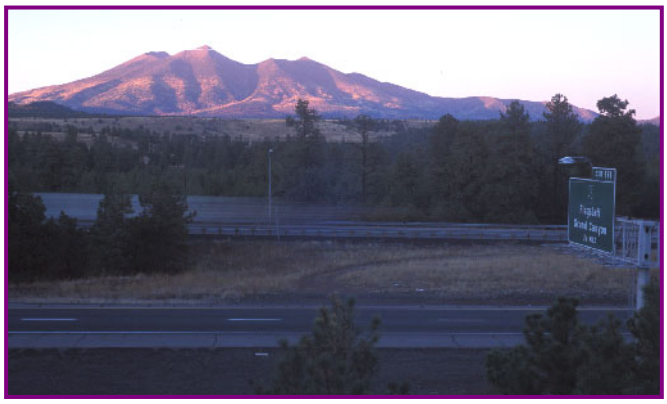

Photo by J. K. Woronowicz

Introduction

Establishing a Regional Policy Framework—expressed as goals and policies—is essential to setting a course to be followed as the region develops and grows. It helps define the fundamental principles and basic policy choices necessary to guide the development of a plan for the greater Flagstaff region.

A *goal* is a general or fundamental doctrine or assumption; it is an ideal and a value to be sought. A *policy* is a definite course of action adopted and pursued in attaining goals; it is used to guide and determine present and future decisions.

Because of the nature of policies, some policies may appear to conflict, particularly in the context of a specific situation or viewed from the different perspectives of persons whose interests may conflict on a given issue. A classic example is the so-called "conflict" between policies which call for the "preservation of the environment" and policies which "support economic development." Because policies do not exist in isolation, and must be viewed in the context of all potentially relevant policies, it is largely in their implementation that they shall be reconciled and balanced by decision-makers and staff. Exercise of judgement is critical to a comprehensive plan that seeks to provide general direction regarding the range of factors affecting growth and development in a complex urban environment.

The goals and policies are organized into categories to make it easier to translate them into more specific policies over time. But they have implications that overlap more than just the single category in which they are listed. While the goals focus mostly on physical surroundings, they also contain implications that affect environmental, economic, and social concerns.

Each of the policies in this *Regional Plan* is supported by one or more *strategies* which outline specific measures to be taken in implementing the policy to which they relate.

The Policy Framework establishes the basic policy direction for the region in the following category elements:

- Land Use and Growth Management, Housing and Neighborhoods, Commercial Development, Industry and Employment, Infill and Redevelopment, and Cost of Development
- Transportation
- Open Space, Parks, Recreation and Trails

- Community Character and Design
- Natural and Cultural Resources and the Environment
- Water Resources
- Community Facilities and Services
- Public Safety

For each category, the Policy Framework includes a set of goals, each goal supported by a set of policies to be pursued in attaining the goal, and strategies that outline specific measures to be taken in implementing the policy to which they relate.

The *Regional Plan* contains the building blocks that implement the growth management portion of the future presented in *Vision 2020*. It establishes a policy framework to guide growth in the region. The *Regional Plan* plays a crucial role in the City's and county's review of development proposals and in making long-term capital investments. It helps shape the region's future by influencing the location, quality, and cost of growth.

Land Use Patterns

Existing Land Use

In developing a general concept for future land use in the Flagstaff Metropolitan Planning Organization (FMPO), it is essential that existing land uses be inventoried and that current development patterns be evaluated. The uses of land within the area did not just happen, but evolved in a natural way that supported the livelihood of the residents of the county.

The area's development patterns are dependent on several major factors:

Transportation Network

The existing highway and major road network has been a major determinant of land use and development patterns. Interstate 40, Interstate 17, U.S. Highways 89 and 89A, U.S. Highway 180, and historic Route 66 serve as the major traffic corridors in the Flagstaff area with nearly all residents of the unincorporated area finding it necessary to travel these routes to Flagstaff or other parts of the community. With few exceptions, all rural residential developments feed collectors or local roads that intersect one of these routes. The resulting traffic volumes, coupled with commuter traffic and through-traffic, have made these roads an attractive location for commercial and industrial activities.

Geography

The ownership patterns of private and public lands and topography have also played a major role in determining the development patterns. Residential development which years ago was mostly in Flagstaff or other small communities now tends to be spreading across the rural landscape because of the desirability of these rural forest locations.

Utilities

The absence of public water or sewer service in rural sections of the planning area, together with some soil and topographic restrictions, serve as development constraints. These constraints should influence land use and development patterns significantly. Generally, the lack of water in rural areas has severely constrained development in the past. However, in more recent years, water availability has not been as strong a

deterrent to residential development. Hauling water has been accepted as a part of the rural lifestyle that is drawing residential development outside the Flagstaff city limits. Some of the areas that were developed in the past on marginal soils or in areas with shallow groundwater, and which have individual utility systems, have experienced well contamination and septic system failures.

Table 2 delineates the existing acreage for each of the following land use categories. Educational uses, public buildings and grounds, and other public facilities are shown as Institutional uses in the table. Of the approximately 48,375 acres of private land in the FMPO, approximately 16,665 acres, or 34.4 percent of the FMPO, remain vacant.

Table 2: Existing Private Land Use and Acreage

Land Use Category (Private Lands)	Total FMPO (Acres)	Percent of Private Land (FMPO)	City of Flagstaff (Acres)	Percent of Private Land (City)	County FMPO (Acres)	Percent of Private Land (County)
Very Low-density Residential	17880.0	37.0%	376.3	2.0%	17503.7	58.4%
Low-density Residential	2373.3	4.9%	2345.1	12.7%	28.1	0.1%
Medium Density Residential	482.2	1.0%	293.0	1.6%	189.1	0.6%
High Density Residential	400.1	0.8%	400.1	2.2%	0	0.0%
Commercial Medical	10.3	0.02%	9.3	0.1%	1.0	0.0%
Commercial Neighborhood	28.2	0.06%	24.4	0.1%	3.8	0.01%
Commercial Office	38.6	0.08%	27.8	0.2%	10.8	0.04%
Industrial	1891.0	3.9%	1147.3	6.2%	743.7	2.5%
Institutional	3596.5	.4%	2657.6	14.4%	938.8	3.1%
Parks	1357.5	2.8%	982.5	5.3%	375.0	1.3%
Open Space	512.3	1.1%	354.7	1.9%	157.6	0.5%
Right of Way	2342.0	4.8%	2324.0	12.6%	0	0.0%
Undeveloped	16664.6	34.4%	6763.2	36.7%	9901.4	33.0%
Total Private Lands	**48375.2**	**100.0%**	**18411.9**	**100.0%**	**29964.2**	**100.0%**

The generalized existing land use pattern within the unincorporated area is predominated by very low-density residential land uses, which make up approximately 58 percent of private land in the county. Commercial uses in the county are located along major arterials and industrial uses are clustered around interstate highway access points. Vacant and agricultural land is predominately being held or utilized in reserve for future development. The unincorporated area consists of varying sized parcels of urbanized and unimproved lands dispersed throughout the developable area. The unusual configuration in the unincorporated area is due in large part to decades of unregulated land divisions, exempt divisions of land, and the distribution of public lands.

A similar pattern exists in the City of Flagstaff where commercial development follows Route 66 and Milton Road and in downtown concentrations. Industrial uses are clustered around Interstate 40 highway access points and areas adjacent to Route 66 and the Santa Fe Railroad. Large shares of lands located within the city limits are public lands, including both state and

federal lands. Residential uses are generally concentrated around the central business district, east and west of Buffalo Park, and both north and south of Interstate 40. Low- and very low-density single-family homes and subdivisions make up the majority of housing types in the city, although medium and high density housing have made up a higher percentage of housing over the past ten years. The current and ten-year trends in housing within the city are illustrated on Table 3: Trends in Housing Types.

Table 3: Trends in Housing Types

Category	Density Range	Percentage of Existing Housing by Type	Percentage of Housing Developed Past 10 Years by Type
Single-family (low- and very low-density)	Up to 5 du/ac	54%	34%
Medium-density	6–12 du/ac	19%	22%
High-density	> 12 du/ac	27%	44%

DEMOGRAPHIC AND ECONOMIC TRENDS AND PROJECTIONS

Population

Population Distribution

Based on information provided by the U.S. Census Bureau and the Arizona Department of Economic Security, the Flagstaff Metropolitan Planning Organization (FMPO) had a population of 71,202 in 2001. This represents an estimate of 57,702 for the City of Flagstaff and 13,500 for the portions of unincorporated Coconino County within the FMPO boundary. From 1985 until 1995, the region grew at a rate of nearly 2.5% per year, which was slightly less than the state's growth rate of 3.1% during the same period.

The City of Flagstaff accounts for approximately 82% of the FMPO population. Other significant areas of population include the Black Bill/Doney Park, Kachina Village/Mountainaire, and Timberline/Fernwood areas. The population distribution within the planning area may be inferred from the existing land use pattern that appears on the Ownership Patterns Map (Map 2). Generally, there has been a slight increase in the percentage of the FMPO population residing within the City of Flagstaff, as opposed to the unincorporated areas, during the last 15 years. The need for municipal services, particularly water and sewer, may be partially responsible for this trend.

Population Characteristics

While the Flagstaff area population continues to be younger as a whole than Arizona and U.S. averages, the population is aging. The fastest growing segments of the population between 1980 and 1995 were in the age categories of 25–44, 45–64, and 65+. These populations grew 70%, 78%, and 178%, respectively, while the city population grew 50%. The population in the age category of 45–64 grew 46%, and the 65+age category grew by 57% during the period 1990-1995, while the population of Flagstaff grew only 13%. The population under age 18 actually decreased as a percentage of overall population during the period 1980–1995, but during the period 1990–1995 has increased faster than the overall rate of growth (19%).

Although there have been increases in this segment of the population in recent years, the average household size continues to decrease from 3.35 person per household in 1970 to 2.68 persons per household in the city in 1995 and 2.99 in the county in 1990, according to census data. The average household size for the city in 2000 was 2.59 and 2.80 for the county.

Population Projections

Arizona Department of Economic Security population projections through the year 2020 in the FMPO is projected to increase by 33,152 persons, of which 25,432 are forecast for the city and 7,720 for the county. This represents annual growth rates of 1.59% for the city and 2.22% for the county. In all, the total projected population for the region is 103,743, of which 83,577 is for the city and 20,166 is for the county.

Land Use Categories

The following is a description of the land use categories contained in the Regional Land Use Plan.

Residential

Very Low-Density Residential

This category is intended to be a setting for a predominance of large lot, single-family housing in a rural setting. This land use category is found primarily on the urban fringe, abutting national forest land. The basic character of development is rural, with most natural features of the land retained. Typically, keeping horses or other livestock is permitted. Public services are not required at as great a level as in higher density development. No commercial or industrial development is present.

In general, areas within this land use district will allow for a minimum of 5 acre lots, as per the county Rural Residential (RR) Zoning Designation, although in some areas of the county, 2.5 acre lots are permitted. Where sanitary sewer and potable water services are available, including within the Urban Growth Boundary, zoning may permit development of one acre lots. Within these areas, development may be clustered to maximize protection of natural resources and open space, where appropriate. Remote, unincorporated areas in the county generally have a minimum lot size of 10 acres, and in some areas, 20 acres. These areas are typically surrounded by public lands and are served by roads that receive little or no regular maintenance. Provision of county services is difficult and expensive in these remote areas.

Low-Density Residential

This category is intended for predominately single-family detached residential development, similar to that which is found in many existing city neighborhoods, such as University Heights. Residential densities of up to 5 dwelling units per acre (net) are typical of this category. The majority of this category is located toward the periphery of developed areas of the city. In general, these areas are quiet residential neighborhoods, predominately consisting of single-family detached homes. In some areas, a mix of single-family homes, duplexes, townhouses, and low-rise apartments would also be suitable, provided that the average density of such areas does not exceed 5 dwelling units per acre. This classification may also include such supporting land uses as neighborhood shops and services, parks and recreation areas, religious institutions, and schools. A full range of urban services and infrastructure is required.

Medium-Density Residential

The Medium-Density Residential category includes duplexes, manufactured and modular homes, apartments, townhomes, and other forms of attached housing, and many of the older single-family areas of the city that were subdivided with 25-foot wide lots. The net density range for this category is 6 to 12 dwelling units per acre. This category may also include such supporting land uses as neighborhood shops and services, parks and recreation areas, religious institutions, and schools. A full range of urban services and infrastructure is required.

High-Density Residential

The High-Density Residential category provides for apartment and condominium complexes ranging from 13 or higher net dwelling units per acre. This category may also include such supporting land uses as parks and recreation areas, religious institutions, and schools. A full range of urban services and infrastructure is required.

Mixed-Use

This land use category, like others, is intended to be a setting for both residential and non-residential uses that are developed and operated in harmony with the quality design standards. The primary objective is to provide a mix of housing types, shopping, and employment to meet a wide variety of needs of housing choices and commercial and services uses, and employment centers as part of an activity of neighborhood center, that invites walking to gathering places, services, and conveniences, and that are fully integrated into the larger community. This category may include a mix of housing types at a required average density of not less than seven dwelling units per acre, including single-family detached and attached dwellings, and multi-family dwellings. Commercial and service uses and employment centers are included as part of an activity or neighborhood center, including retail stores, convenience stores, personal and business services and offices, industrial, community facilities, and other similar uses. Other supporting land uses, such as parks and recreation areas, religious institutions, and schools, may be included. A full range of urban services and infrastructure is required.

The required average density of seven dwelling units per acre applies to the Mixed-Use land use category per the Land Use Plan map. The Mixed-Use land use category is not appropriate nor well-suited for application to the Planning Reserve Areas which are mapped as three and five dwelling units per acre on the Land Use Plan map. The Mixed-Use Land Use category is currently mapped in interior core areas of the city along Route 66 and I-40. The potential for future additional application and mapping of the Mixed-Use Land Use category is more appropriate and applicable to interior areas of the city and to PRAs mapped at seven dwelling units per acre.

The Mixed-Use category may have an emphasis of either residential or non-residential. The objective is to mix the two to provide districts of housing, shopping, and employment. The uses may include those of the various residential housing types and categories, as well as other uses as described in the land use categories of Commercial Neighborhood, Commercial Regional/Community, Office/Business Park/Light Industrial, Industrial Light/Medium, Institutional, Parks, and Open Space. However, this category does not preclude single use developments.

Commercial

Community/Regional Commercial

This commercial category is intended for all commercial and service uses that serve the needs of the entire region. This includes commercial activities that attract a regional or community-wide market, as well as tourism and travel-related businesses. While uses located in this

category typically tend to be auto-oriented, the regional commercial category emphasizes safe and convenient personal mobility in many forms, with planning and design that accommodate pedestrians.

Neighborhood Commercial

The Neighborhood Commercial category is intended for all commercial retail and service uses that meet consumer demands for frequently needed goods and services, with an emphasis on serving the surrounding residential neighborhoods. Oriented to the day-to-day needs of the neighborhood it serves, these areas are typically anchored by a grocery store, with supporting establishments including, but not limited to, variety, drug, and hardware stores, and personal service establishments, such as medical offices, beauty shops, and restaurants. Development in this category may also include other neighborhood-oriented uses such as schools, employment, day care, parks, and civic facilities, as well as residential uses as part of a mixed-use development.

Industrial

Office/Business Park/Light Industrial

The Office/Business Park/Light Industrial category is intended to provide locations for a variety of workplaces including light industrial uses, research and development activities, offices, and institutions. Uses in this category are typically developed in attractively landscaped, campus-like settings with activities carried out entirely within enclosed buildings. The category is intended to encourage the development of offices and planned business parks; to promote excellence in the design and planning of buildings, outdoor spaces, and transportation facilities; and to continue the vitality and quality of life in adjacent residential neighborhoods. Other supporting uses that complement the primary workplace uses, such as restaurants, hotels, child care, and convenience shopping, may be appropriate in this category if included as part of an overall planned development. Sites designated for this category should have good access to existing or planned transportation facilities and compatibility with adjacent land uses.

Light/Medium Industrial

The Light/Medium Industrial category is intended to provide a location for a variety of work processes and work places such as light industrial uses; research and development activities; manufacturing, warehousing and distributing; indoor and outdoor storage; and a wide variety of commercial and industrial operations. Uses in this category are typically involved in the secondary processing of materials into components; the assembly of components into finished products, transportation, communication and utilities, wholesaling, and warehousing. Transportation requirements are usually met by truck, although rail and air transportation may be utilized as well.

Heavy Industrial

The Heavy Industrial category is often characterized by uses that can be hazardous, offensive, or unsightly. The uses are typically involved in the primary processing of raw materials into refined materials in large volumes, often requiring large energy supplies and large volumes of raw materials. Processing may generate liquid or solid wastes, air pollutants, and other emissions, such as noise, glare, light, vibration, or heat. Examples of such uses include lumber and wood products; paper, chemicals and primary metal manufacturing; storage of hazardous materials; cinder pits; and concrete and asphalt plants.

Public/Semi-Public

Institutional

The Institutional category is intended to accommodate public and semi-public land uses, such as governmental facilities, schools, utilities, and institutions. Many of these uses, such as Northern Arizona University, City Hall, public schools, etc., have many of the characteristics of employment uses.

Open Space

The Open Space category is in any parcel or area of land or water essentially unimproved and set aside, dedicated, designated, or reserved for public or private use or enjoyment, or for the use and enjoyment of owners and occupants of land adjoining or neighboring such open space. The term does not preclude low-impact recreational uses, such as hiking, fishing, or picnicking. Open Spaces include natural areas, greenways, trails, streetscapes, waterways, cemeteries, drainageways, floodplains, corridors, preserves, wildlife refuges, wetlands, and riparian areas. Open Space areas are used for passive recreation, and where specifically designated for other forms of recreation, such as bicycling, horseback riding, and fishing; agriculture; shaping the development of the city and other communities by limiting urban sprawl and containing growth; and spatial definition of urban areas. Open Space areas also may be preserved or restored for their aesthetic value, scenic areas and vistas, ecological value, archaeological and historic significance; and wildlife habitat and corridors. Open space lands are a complex mosaic of natural systems with a wide variety of qualities, values, and purposes affecting all other elements of the *Regional Plan*. The policies and supporting maps provide the framework and direction for future, more issue-specific or site-specific planning as land uses are developed and implemented in balance with resource preservation.

Parks and Recreation

A parcel or area of land either publicly or privately-owned that is designated for recreation use. The term allows for both active and passive activities, as well as special use functions. Parks/Recreation Area may include special use facilities set-aside for a single/specific use, such as recreation centers, golf courses, and swimming pools. The Parks/Recreation category is inclusive of all park classifications, including pocket parks, neighborhood parks, community parks, regional parks, conservation parks, and special purpose facilities, as defined in the *City of Flagstaff Long-range Master Plan for Parks*, *Recreation and Open Space Plan*, and applicable Coconino County plans, but exclusive of Open Space lands.

Parks/Recreation Areas may extend onto adjacent lands, whether publicly- or privately-owned, and serve as an entry point to open spaces. The representation of proposed parks and park expansions, where known, are indicated both with boundaries (when parcels have been identified) and with icons (when parcels have not been specifically identified but will be in the vicinity) on the supporting maps. The exact location of proposed and park expansions may have to be adjusted in accordance with population densities, sound design practices, availability and suitability of land, fiscal and funding constraints, accessibility, topographic and other ecological or cultural constraints.

Public Multiple-Use Lands

The Public Multiple-Use lands category is intended to accommodate lands that are under the jurisdiction of federal agencies (U.S. Forest Service, National Park Service) and state agencies (State Land Department) that are managed for a multitude of public recreational and economic uses. Lands in this category have been identified as having a high priority for retention in the *Greater Flagstaff Area Open Spaces and Greenways Plan*, and thus should not be developed for urban uses. These lands can serve as buffers, quiet areas, wildlife habitat or scenic areas.

Given that some State Trust lands are designated Public Multiple-Use, where such lands cannot be acquired or protected as Public Multiple-Use, or the property owner has not consented to the Public Multiple-Use designation, then such lands would be considered appropriate under this designation for residential development either through appropriate existing residential zoning or requested and granted rezoning, provided the rezoning request addressed the applicable requirements of a rezoning beyond conformance to the general plan.

Public Multiple-Use Lands/Low Retention Priority

Although not a specific land use category, there are lands that are under the jurisdiction of federal agencies (U.S. Forest Service) and state agencies (State Land Department) that were identified as having a low priority for retention as open space in the *Greater Flagstaff Area Open Spaces and Greenways Plan*. Some of these lands are designated Public Multiple-Use and managed for a multitude of public, recreational, and economic uses. The remaining lands identified as low-priority have been designated for development.

Special Categories

Rural/Agricultural

The Rural/Agricultural category is intended to accommodate privately-owned lands located in more remote areas of the planning area that have high conservation value. All of these lands have zoning in place in the county that will allow very low-density residential development, typically up to 10 acres per dwelling. However, these properties have special characteristics by virtue of their location, proximity to sensitive natural features, or resource values, that make them desirable for potential acquisition as an addition to the regional open lands system that is a part of the Public Multiple-Use Lands category.

Rural Activity Center

The Rural Activity Center category is intended to accommodate designated locations in unincorporated areas that are appropriate for locally-serving retail and service businesses. Rural activity centers are intended to serve as focal points for the community in which they are located. The uses that each activity center may contain will vary depending upon the characteristics, needs, and zoning of the location. The range of uses may include small-scale retail, offices, and other business and personal services designed to meet the needs of area residents. Other appropriate uses may include schools, transit stops, parks, or other civic uses. The objective is to provide opportunities to meet area resident needs locally, reducing the requirement to travel out of the area to meet day-to-day needs. Development in this category may be subject to special standards, including size limits and design standards, so as to maintain a scale and architectural character appropriate to the community.

Planning Reserve Area

The Planning Reserve Area (PRA) category is intended to accommodate designated areas within the Urban Growth Boundary that are recognized as having the potential, at some point in the future, to develop at urban densities requiring a full range of urban infrastructure and services. In short, these lands will serve as a "holding area" for future urban development.

In order to maintain flexibility to respond to market needs at such time that development of these lands is appropriate, no specific land uses have been designated for Planning Reserve Areas. However, in general, the development of new parcels, particularly those of more than 35 acres, within the PRA shall have a required average density of either three, five, or seven dwelling units per acre as mapped on the Land Use Plan. In all designated three and five dwelling unit per acre Planning Reserve Areas, the required average density is the maximum density as defined in calculating "Required Average Density" in the Glossary Section of the

Regional Plan. In the designated seven dwelling unit per acre Planning Reserve Areas, there is no maximum density.

These developments will be designed to reduce the amount of land consumed, facilitate the protection of urban open space, and to ensure that future urban development utilizes land and infrastructure efficiently. Traditional Neighborhood Design development is preferred for the PRAs, however, it is recognized that some development may take the form of Conventional Suburban, particularly in the PRAs with the three and five dwelling units per acre designations. Traditional Neighborhood Design and Conventional Suburban are not Land Use Plan categories. They are simply a way of designing a project and developing land. (See Glossary of Terms section of this Plan.) Numerous Land Use Plan categories and zoning districts may be applicable depending on the specifics of the proposed development.

The Mixed-Use Land Use category is not applicable to the PRAs which are mapped as three and five dwelling units per acre on the Land Use Plan map. The Mixed-Use Land Use category is currently mapped in interior core areas of the city along Route 66 and I-40. The potential for future additional application and mapping of the Mixed-Use Land Use category is more appropriate and applicable to interior areas of the city and to PRAs mapped at seven dwelling units per acre.

To achieve the densities of three, five or seven dwelling units per acre in the PRA, Land Use Plan category reclassifications and rezoning will be required.

Required average density shall not apply to development of parcels of 35 acres or less that are in existence as of the date the *Regional Plan* is ratified by the voters.

Goals

GOAL 1: LAND USE

Greater Flagstaff will have a compact land use pattern within a well-defined boundary that shapes growth in a manner that preserves the region's natural environment, livability, and sense of community. Flagstaff will continue to offer the primary types of housing design developments that have defined its land use patterns: the conventional and traditional neighborhood scale which provide a choice of housing types and supporting non-residential uses within walking distances.

GOAL 2: LAND USE

The integrity of individual communities in the county will be supported by maintaining separation between existing communities; respecting existing area plans, as well as encouraging consistency with the *Regional Plan*; and preserving the integrity of open space boundaries identified in the *Greater Flagstaff Open Spaces and Greenways Plan*, as a major defining element of the Region's Growth Area Boundaries.

GOAL 3: LAND USE

The *Regional Land Use and Transportation Plan* will be coordinated with state and federal land management policies.

GOAL 1: COMMERCIAL DEVELOPMENT

Shopping and service areas will be convenient to residents as well as visitors to the region in a manner that meets their needs, while remaining compatible with surrounding land uses.

GOAL 2: COMMERCIAL DEVELOPMENT

Downtown Flagstaff will continue to serve as the focal point of the community, as established by development intensity, land use, building height, and high quality urban design.

GOAL 3: COMMERCIAL DEVELOPMENT

Commercial uses in the county will be located in activity centers in specifically designated areas intended to serve as focal points for the community in which they are located, and they will provide opportunities to meet area resident needs locally, while avoiding a strip commercial pattern of development along the region's major roadways.

GOAL 1: INDUSTRY AND EMPLOYMENT

The community will enjoy a healthy, thriving economy with opportunities for quality and diversified employment of various economic levels for its residents with livable wages, and environmentally responsible industries that make a positive contribution to the community and the economy.

GOAL 1: HOUSING AND NEIGHBORHODS

The supply of affordable home ownership, rental, and special needs housing units affordable to low- and moderate-income households will be increased.

GOAL 2: HOUSING AND NEIGHBORHOODS

New neighborhoods will be built and support will be given to existing neighborhoods that integrate a variety of housing types and densities with amenities, services, and retail to ensure opportunities for a variety of household income levels.

GOAL 3: HOUSING AND NEIGHBORHOODS

Development patterns designed to maintain the open character of rural areas, protect open lands, and to protect and maintain sensitive environmental areas will be promoted.

GOAL 1: COST OF DEVELOPMENT

Having accomplished almost ten years of successful implementation of the Land Development Code, the City seeks to establish a development fee schedule which will enhance the City's ability to provide adequate off-site improvements and facilities for new development and implement the Growing Smarter provision for cost of development.

GOAL 1: TRANSPORTATION

A safe, convenient, user-friendly transportation system will be developed throughout the region, addressing both short and long-term needs, and emphasizing alternative transportation modes while reducing dependency on the automobile.

GOAL 2: TRANSPORTATION

An enhanced public transit system will be promoted as an integral part of the region's overall transportation system.

GOAL 3: TRANSPORTATION

The region's development pattern will support a diverse range of transportation choices, including transit, walking and bicycling, as well as driving.

GOAL 4: TRANSPORTATION

The Region's transportation system will be developed and managed with attention both to supply-side (e.g., new roads) and to demand-side strategies.

GOAL 1: OPEN SPACE, PARKS, RECREATION & TRAILS

The region will have a balanced system of open lands, natural areas, wildlife corridors and habitat areas, trails, greenways, parks and recreation facilities as guided by the *Greater Flagstaff Area Open Spaces and Greenways Plan*, the City of Flagstaff Urban Open Spaces Plan, the City's *Long Range Master Plan for Parks, Recreation and Open Space*, and County Area Plan Open Space Objectives.

GOAL 1: COMMUNITY CHARACTER AND DESIGN

A sense of connection will be maintained in the built environment to the region's natural setting and dramatic views.

GOAL 2: COMMUNITY CHARACTER AND DESIGN

The Flagstaff region will continue to protect its unique character that reflects its forested setting of ponderosa pine trees, piñon and juniper vegetation, and meadows through quality design and development. Emphasis will be placed on quality design in both the public realm—streets, civic buildings, and other public spaces—as well as the private realm—commercial buildings, work places, and housing. Preservation of vegetation and wildlife are part of the quality design and development process.

GOAL 1: NATURAL AND CULTURAL RESOURCES AND THE ENVIRONMENT

High standards will be maintained for protection and improvement of the region's quality of life offered by its natural and cultural, historic and archaeological resources and its natural environment.

GOAL 1: COMMUNITY FACILITIES AND SERVICES

Infrastructure and public services will be provided in an efficient, equitable and effective manner.

Amendments & Updates

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Photo by Holly Fruland

Introduction

From time to time, it may be appropriate and necessary to amend certain portions of the *Regional Plan*. In particular, it is anticipated that over time the Urban Growth Boundary, portions of the Rural Growth Boundaries, and designation of certain lands as Planning Reserve Areas may be amended to reflect changing conditions in the region. The following criteria shall be applied when amendments are considered.

Amendments to Planning Reserve Areas

If someone wishes to develop Planning Reserve Area (PRA) lands more intensely or for a different use than allowed by the current one house per one acre or one house per five acre zoning, the property must be changed to another land use designation and rezoned. The planning process includes a determination of appropriate land uses, adequacy of public facilities, and consistency with *Regional Plan* policies. The review process is similar to that currently required: review by staff and Planning and Zoning Commission, and City Council for amendment of the *Regional Plan*, master planning, and rezoning, if appropriate. The criteria for re-designation from PRA to another land use category calls for a minimum of 35 acres.

The zoning on these lands consists of Rural Residential (1 dwelling unit per 5 acres) and Estate Residential (1 dwelling unit per 1 acre). Unlike the other lands within the city limits in the *Regional Plan*, these lands do not have a specific land use plan designation, such as residential, commercial, or industrial. Nor is it appropriate to presume that designating such areas with detailed land use categories should occur at this time without detailed market-driven master planning. This provides for flexibility to respond to market needs at such time that development of these lands is appropriate. It is expected that development master plans will be prepared providing the mix of uses that carry out the *Regional Plan*'*s* policies for activity centers, different housing types and densities (between a required average of three, five, and seven dwelling units per acre as indicated on the Land Use Plan) and various intensities of appropriate commercial and employment uses; provision of parks, schools, and other public facilities, and open space as appropriate.

PRAs should make the maximum efficiency of land uses and provide an orderly and economic provision of public facilities and services, provide for compatibility of adjacent land uses, including the Public Multiple-Use lands.

In summary, parcels under 35 acres in size are not subject to the average residential density requirement; but as part of a PRA, and as with all PRAs, to re-designate PRAs to another land use, they must be master-planned, rezoned as appropriate, provide adequate public facilities, and demonstrate consistency with policies of the *Regional Plan*. A mix of housing types and lot sizes varying between low-density and high density can be utilized so that the required average density is achieved.

Planning Reserve Area

The Planning Reserve Area category is intended to accommodate designated areas within the Urban Growth Boundary that are recognized as having the potential, at some point in the future, to develop at urban densities requiring a full range of urban infrastructure and services. In short, these lands will serve as a "holding area" for future urban development. In order to maintain flexibility to respond to market needs at such time that development of these lands is appropriate, no specific land uses have been designated for Planning Reserve Areas. However, in general, the development of new parcels, particularly those of more than 35 acres, within the PRA shall attain a required average density of either three, five, or seven dwelling units per acre. These developments will be designed to reduce the amount of land consumed, facilitate the protection of urban open space, and to ensure that future urban development utilizes land and infrastructure efficiently. Before being considered for development, lands designated as PRAs should be reclassified and rezoned for specific land uses and densities. Required average density shall not apply to development of parcels of 35 acres or less that are in existence as of the date the *Regional Plan* is ratified.

Planning Reserve Area Review Criteria

The PRAs are located between Fort Tuthill and I-40 on the west and I-17 to the east; along both sides of I-40 on the east side of the city; south of I-40 and Little America; with section 20 at the urbanized area's southeastern boundary. They are surrounded by either existing or proposed low and medium residential, commercial, and office business/park development; as well as public multiple-use lands. The interstates are major barriers to development on the other side. Where no such obstacle exists, adjacent development plays an integral role in the future development of the PRA. Many of the existing areas of development are without activity centers, parks, trails, transit, and other supporting facilities and services which could be provided in the PRA.

There are many factors to be considered in the development of the remaining PRAs, such as existing surrounding development; the presence of the interstates; the lack of public facilities in some areas; and the various goals trying to be attained by compact development, including protection of surrounding open spaces, provision of transit services, affordable housing opportunities, walkable neighborhoods, live/work environments, and more desirable marketable and higher value development.

Before PRAs are developed, master planning is required to determine and address compatibility with surrounding development; sensitivity to natural landscapes; open space, parks, and trails protection and needs; housing affordability provisions; and conformance with other appropriate *Regional Plan* policies.

These PRAs are expected to function in conjunction with existing development, each serving as a component and contributor of a larger district. The critical tools to accomplish the proper integration of various uses are the use of high quality design, neighborhood units as building blocks, and a required average density threshold that supports a range of housing types and a limited amount of related supplementary non-residential uses.

Where the PRAs abut an existing land use and the land use proposed within the PRA may be considered substantially incompatible through its intensity or density of development, such situations would require open space buffering or transitional land uses.

The following review criteria shall apply when Planning Reserve Areas are being considered for re-designation to another land use category for development:

Planned Land Uses—PRA must be master-planned, either as part of a regional land use plan amendment or part of an area plan that establishes appropriate land use patterns, transportation system, infrastructure, and public facilities.

Zoning Requirements for Adequate Public Facilities—PRA designation must be concurrent with rezoning of the area proposed to be converted from PRA to development use. Rezoning shall be contingent upon provisions for adequate levels of public facilities and services, either in place or provided for by applicant or in an approved Capital Improvement Program.

Policy Compatibility—proposed PRA re-designation must be consistent with community goals and objectives as expressed in *Regional Plan* policies.

Proposed Development Contiguity—for PRA areas outside of the city, the PRA area must either have adequate contiguity to be eligible for annexation to the city at the time of re-designation, or the applicant shall enter into an agreement that the PRA will voluntarily annex when required contiguity is established.

Required Average Density *Application*—proposed land uses in the PRA must comply with required average densities for the area, as specified on the Land Use Plan map.

On the Land Use Plan, PRA densities have been allocated on a walkable neighborhood unit scale generally between 100 to 160 acres. Additionally, a required average density gradient has been applied to PRAs, with peripheral PRAs mapped at either the required average density of three or five dwelling units per acre as indicated on the Land Use Plan map; and interior PRAs, or those closest to activity areas and major roadways mapped at the required average density of seven dwelling units per acre. Those PRA areas designated at the required average density of three and five are not required to achieve a required average density of seven dwelling units per acre near major roadways.

The required average density is a gross density calculated on all land associated with residential development excluding: non-residential uses (corner store, day care center, etc., but not excluding private golf courses), and publicly-owned public spaces (such as parks and open space), except for rights-of-way associated with residential area development. In arriving at an average gross density, multiple dwelling unit types may be utilized at various densities to achieve the required average density.

For those PRAs with a mapped density of three or five, the required average density serves as both the minimum and maximum. For the PRAs mapped at a required average density of seven dwelling units per acre, the required average density of seven is the minimum, with no maximum density designated. To achieve the densities of three, five, or seven dwelling units per acre in the PRA, Land Use Plan category reclassifications and rezonings will be required.

Proposed Type of Development—Traditional Neighborhood Design development is preferred for the PRAs, however, it is recognized that some development may take the form of Conventional Suburban, particularly in the PRAs with the three and five dwelling units per acre designations. Traditional Neighborhood Design and Conventional Suburban are not Land Use Plan categories. They are simply a way of designing a project and developing land. (See Glossary of Terms section of this *Regional Plan*.) Numerous Land Use Plan categories and zoning districts may be applicable depending on the specifics of the proposed development.

The Mixed-Use land use category is not applicable to the PRAs which are mapped as three and five dwelling units per acre on the Land Use Plan map. The Mixed-Use Land Use category is currently mapped in interior core areas of the city along Route 66 and I-40. The potential for future additional application and mapping of the Mixed-Use land use category is more appropriate and applicable to interior areas of the city and to PRAs mapped at seven dwelling units per acre.

To achieve the densities of three, five, or seven dwelling units per acre in the PRA, Land Use Plan category reclassifications and rezoning will be required.

Transition Zone—Where the PRAs abut Forest Service Public Multiple-Use lands a transition zone is recommended within the PRA which should be preserved in its natural state or developed at very low residential densities, such as at one dwelling unit per acre. The intent in the urban transitional zone is to provide a compatible transition between urban development and the multiple-uses of the public lands within and beyond the city limits. This entails mitigating the impacts of domesticated animals on wildlife, distancing human environs that are attractive to wildlife.

The width of such a buffer would be determined based on, but not limited to the following: topographic conditions, preservation of washes, protection of ridges, protection of threatened and endangered plant species, conservation of old growth ponderosa pine trees, major roadways, and utility lines. Where there are existing development encumbrances, such as major utility lines and roadways, additional open space buffers are not necessary to allow for the transition from development to Public Multiple-Use lands. These areas will be mapped on the Land Use Plan and Open Space maps to indicate locations of open space transition buffers.

Minimum Area—PRA should be of sufficient size to enable cohesive planning of the area, normally a minimum of 35 acres.

Section 20

Due to its proximity to Walnut Canyon National Monument and the city's commitment to protect its cultural and natural resources, design criteria for the development of Section 20 T21N R8E will be guided by the following:

- Develop with a required average density of three dwelling units per acre. In calculating the required average density of a residential project, areas of a project which will be excluded from the density calculation are those areas of a project which are to be publicly-owned (such as a park or open space) or not available for residential development (such as a corner store, day care center, but not excluding private golf courses). Roadways associated with the residential component will not be excluded from the gross density calculation.
- An open space transition buffer along its southern boundary of at least 400 feet in depth, which may be left in its natural state or developed at very low residential densities, such as at one dwelling unit per acre.
- An open space transition buffer along part of its eastern boundary to include lands within the meadow to tree line, which may be left in its natural state or developed at very low residential densities, such as at one dwelling unit per acre
- Open space corridors are to be provided to allow for access from adjacent existing developments to public lands and the Flagstaff Urban Trail System (FUTS) where designated on the FUTS Plan. These corridors shall originate at appropriate access points, such as roadways, in the developed areas and continue through the areas proposed for development.

AMENDMENTS TO GROWTH BOUNDARIES

Urban Growth Boundary (UGB)

Amendment Review Criteria

The following criteria shall apply when consideration is given to amending the Urban Growth Boundary:

1. Market Need—that the supply of suitable land within the Stage One UGB is inadequate to provide for projected residential development as well as accompanying needs for employment and commercial lands over the next 20-25 years.
2. Policy Compatibility—that the proposed amendment is consistent with community goals and objectives as expressed in *Regional Plan* policies.
3. Land Suitability—that the land proposed for inclusion in the UGB contains no sensitive environmental resources or hazard constraints that make the area unsuitable for development.
4. Capital Facilities Plan Consistency—that the expansion is consistent with the city's long-term capital improvements and facilities and services plans.
5. Open Space and Greenways Plan Consistency—that the expansion is consistent with open space classifications and recommendations contained in the *Greater Flagstaff Area Open Spaces and Greenways Plan.*

Minimum Area—that the area planned for expansion of the UGB is of sufficient size to enable cohesive planning of the area. In normal circumstances, the minimum area shall be 160 acres.

1. Logical Extension of UGB—that the amendment be a logical extension of the UGB. Factors include but are not limited to an efficient increment for extending urban services, a desirable community edge and boundary, and a location that contributes to the desired compact, contiguous urban form.
2. UGB Contraction—in addition to UGB expansion, it is likely that over time the UGB may need to be contracted in specific areas. An area within the UGB may be contracted based on changed circumstances, including but not limited to the following:

    a. determination that development of the area is no longer in the public interest;
    b. acquisition of the area as open space;
    c. new information regarding environmental constraints and/or hazards that affect the ability to develop certain areas; or
    d. that, for utility-related reasons, the City of Flagstaff can no longer expect to be able to extend adequate public facilities and services to the area within 20-25 years.

Rural Growth Boundary (RGB)

Amendment Review Criteria

The following criteria shall apply when consideration is given to amending a Rural Growth Boundary:

1. Policy Compatibility—that the proposed amendment is consistent with community goals and objectives as expressed in *Regional Plan* policies.

2. Land Suitability—that the land proposed for inclusion in the RGB contains no sensitive environmental resources or hazard constraints that make the area unsuitable for development.
3. Open Space and Greenways Plan Consistency—expansion is consistent with open space classifications and recommendations contained in the *Greater Flagstaff Area Open Spaces and Greenways Plan*.
4. Logical Extension of the RGB—that the amendment be a logical, contiguous extension of the RGB, and represent a desirable community edge and boundary.
5. Public Facilities and Services—that the area is capable of meeting the County's level of service requirements for public facilities and services, including but not limited to fire protection and potable water supply.

AMENDMENTS TO THE REGIONAL PLAN

(General Plan & Comprehensive Plan)

Major Plan Amendments

Per Growing Smarter Plus, the following requirement affects major amendments to the city's general plan and the County's comprehensive plan:

> A.R.S.§9-461.06.G. states: "All major amendments proposed for adoption to the general plan by the governing body of a municipality shall be presented at a *single public hearing* during the calendar year the proposal is made."
>
> "...major amendment means a substantial alteration of the municipality's land use mixture or balance as established in the municipality's existing general plan land use element. The municipality's general plan shall define the criteria to determine if a proposed amendment to the general plan effects a substantial alteration of the municipality's land use mixture or balance as established in the municipality's existing general plan land use element."

A.R.S.§11-824.C. states: "All major amendments proposed for adoption to the comprehensive plan by the by the board shall be presented at a *single public hearing* during the calendar year the proposal is made."

> "...major amendment means a substantial alteration of the county's land use mixture or balance as established in the County's existing comprehensive plan land use element for that area of the county. The County's comprehensive plan shall define the criteria to determine if a proposed amendment to the comprehensive plan effects a substantial alteration of the County's land use mixture or balance as established in the County's existing comprehensive plan land use element for that area of the county."

The following criteria to be included in the *Regional Plan* apply to the city only. The County would have to develop criteria separate and specific to conditions in the county. The city's criteria would be used in assessing whether a proposal constitutes a major amendment for the city and represents a substantial alteration in the balance or mixture of uses from that in the land use element consist of:

> Changes that impact on large areas of the *Regional Plan* and/or can affect other issues or policies. These amendments alter the substance or intent of major *Regional Plan* policies and consist of:

Residential Amendments:

- Any increase or decrease of intensity of residential land use classification of 80 acres or more.
- Any change from a residential land use classification to a non-residential land use classification of 40 acres or more.

Non-residential Amendments:

- Any change of non-residential land use classification of 20 acres or more.

Changes by Either the City or County:

- Any change to Rural or Urban Growth Boundary.
- Any change to *Regional Plan* policies.

Mandated Changes:

- Any change mandated by initiatives or state law shall utilize the minor amendment process, regardless of the above guidelines.

Parks, Open Space, and Roadways:

- Any change to or from parks, open space, public facilities or institutional shall utilize the minor amendment process, regardless of the above guidelines.
- Changes to the Land Use Plan in the Redevelopment Area Map are not subject to the Major Plan Amendment process.

Major Plan amendments shall be presented at a single public hearing. A major amendment to the general plan shall be approved by affirmative vote of at least two-thirds of the members of the City Council. At least sixty days before the general plan or a portion, element or major amendment of a general plan is adopted, the city shall transmit the proposal to the City Council and submit a copy for review and further comment to:

- Coconino County Community Development Department
- Coconino County
- Northern Arizona Council of Governments
- Arizona State Department of Commerce or any other state agency that is subsequently designated as the general planning agency for Arizona
- Any person or entity that requests in writing to receive a review copy of the proposal

Minor Plan Amendments

Selected systems plans, including Water, Wastewater, Stormwater, Fire Protection, Historic Properties and Districts, Transportation (Transit, Bikeways, F.U.T.S., Roadway Categorization, and Truck Route) Plans, and non-land use and related supplementary plans, including Redevelopment Plan, Community Facilities, Ownership, and Physical Influences, that are included in the *Regional Plan* are dynamic and subject to continuous internal update and not encumbered by the review and amendment process of the City and Regional Land Use Plans.

The following criteria apply to the city only and not the county. The plans and types of projects requiring a minor amendment review and process are those that consist of:

Residential Amendments

- Any increase or decrease of intensity of residential land use classification of less than 80 acres.
- Any change from a residential land use classification to a non-residential land use classification of less than 40 acres.

Non-residential Amendments:

- Any change of non-residential land use classification of less than 20 acres.

Related Land Use Plan Maps

- Roadways Plan, Open Space Plan, and Parks and Recreation Plan.

Mandated Changes:

- Any change mandated by initiatives or state law.

Parks, Open Space, and Roadways Plans:

- Any change to or from parks, open space, and roadways plans.

A minor amendment to the general plan requires only one public hearing by the Planning and Zoning Commission and one by the City Council. These minor amendment public hearings may be held at any time during the calendar year, and do not require two-thirds vote of the City Council. Nor do the proposals have to be submitted to those required of a major amendment; although, of course, they will be made available to those requesting them.

Updates to the Regional Plan

Per the Intergovernmental Agreement (IGA), the City and County shall review the *Regional Plan* on an annual basis and may amend or replace sections of the *Regional Plan* in accordance with statutory procedural provisions, and as set forth in the Development Review Section of the IGA, and as further specified in the adopted regulatory provisions governing amendments to general and comprehensive plans for the City and County.

Per Arizona Revised Statures, a general plan, with any amendments, is effective for up to ten years from the date the plan was initially adopted and ratified pursuant to subsection A.R.S.§9-461.06.J. (city). Voter ratification is not required of County comprehensive plans. On or before the tenth anniversary of the plan's most recent adoption, the legislative body of the municipality or county shall either readopt the existing plan for an additional term of up to ten years or shall adopt a new general plan as provided by this article.

Glossary of Terms

Activity Centers: designated areas of primary activity within the community, intended to serve as focal points for the areas of the community within which they are located. The uses that each of the Activity Centers may contain will vary depending upon the characteristics and needs of the area in which they are located.

Adequate Public Facilities: the public facilities and services necessary to maintain adopted level of service standards in specific geographic areas for various facilities, such as but not limited to streets, park and recreation facilities, water and sewer service, storm drainage, and fire and police protection.

Appropriate Locations (for land uses): areas that are determined to be appropriate for a particular type of land use or activity, as typically measured by compatibility of land use; appropriate levels of impact, such as may result from noise, lighting, or other environmental effects; and ability to provide adequate public facilities to meet the needs of the proposed land use.

Area Plan: within city jurisdiction as defined per city code; within the county's jurisdiction as defined per county code.

Buffer Zone: the installation of plant materials, fencing, or landforms (or a combination of these measures) between two or more properties which inhibits visibility and/or mitigates the transmission of noise, dust, lights, and other nuisances from one property to another.

Certainty: the right to undertake and complete a development and use of property under the terms and conditions of an approval granted by a governmental agency.

Cluster: a development design technique that concentrates building lots in specific areas on a site to allow the remaining land to be used for common open space and/or preservation of environmentally sensitive site features.

Compact Development: a focused layout of developed land that shapes growth in a manner that preserves the region's natural environment, livability, and sense of community by directing growth to well-defined contiguous areas; protecting open lands and natural resources; and delivering public facilities and services more effectively.

Connectivity: describes how well various transportation facilities are connected or interconnected, including the frequency (how far apart) and quality (size and efficiency) of those connections.

Conventional Suburban Development (CSD): a Conventional Suburban Development contains the following characteristics:

1. Housing subdivisions, shopping centers, business parks, stand-alone commercial stores, open space, and civic uses such as schools, libraries, and municipal buildings.
2. All uses are kept separate, in distinct pods. Even housing types, such as townhomes, duplexes, apartment buildings, and single homes, are usually built in separate pods. Transportation between separate pods is generally by automobile.
3. The street pattern is dendritic, rather than interconnected. Housing pods, shopping centers, and business parks feed into arterial roads that carry most of the traffic. To move between pods, one generally has to travel by automobile on an arterial road. Use of cul-de-sacs in residential areas is common.

4. There is usually no distinct center.
5. It is less compact than historic or neo-traditional neighborhoods.
6. Streets are typically designed on an automobile scale. Infrastructure intended for the automobile is given the most prominent placement—e.g., garages, driveways, and parking lots are closest to the street. Arterial roads, which connect separate uses, are designed for rapidly moving traffic. The large distances between uses and housing types poses an additional barrier to pedestrian traffic and can also result in less accessibility to public transit.

Density Bonuses: an increase to the otherwise maximum allowable number of housing units in a development proposal on a specific site in exchange for the developer's provision of a public benefit or amenity.

Design Standards: standards and regulations pertaining to the physical development of site including requirements pertaining to yards, heights, lot area, fences, walls, landscaping area, access, parking, signs, setbacks, and other physical requirements.

Flagstaff Metropolitan Planning Organization (FMPO): The FMPO handles regional transportation planning for 525 square miles surrounding Flagstaff. It was established in 1996 by intergovernmental agreement between the City of Flagstaff, Coconino County, and the State of Arizona represented by the Arizona Department of Transportation. The formation of the FMPO entitles the region to federal transportation planning funds and construction funds.

Industrial: businesses that produce or handle goods or services for export to areas outside of the city, including manufactured goods, research activities, warehousing and distributions, and the support services associated with a regional or national headquarters of a services- or goods-producing organization.

Infill: the development of new housing or other uses on vacant lands and scattered vacant sites within or close to already built up areas.

Interface: the area between one of clearly urban, developed characteristics and one of rural or natural, undeveloped characteristics.

Mixed-Use Land Use Category: This land use category, like others, is mapped and is intended to be a setting for both residential and non-residential uses that are developed and operated in harmony with quality design standards. The primary objective is to provide a mix of housing types, shopping, and employment to meet a wide variety of needs of housing choices and commercial and services uses, and employment centers as part of an activity of a neighborhood center, that invites walking to gathering places, services, and conveniences, and that are fully integrated into the larger community. This category may include a mix of housing types at a required average density of not less than seven dwelling units per acre, including single-family detached and attached dwellings, and multi-family dwellings. Commercial and service uses and employment centers are included as part of an activity or neighborhood center, including retail stores, convenience stores, personal and business services and offices, industrial, community facilities, and other similar uses. Other supporting land uses, such as parks and recreation areas, religious institutions, and schools, may be included. A full range of urban services and infrastructure is required. The required average density of seven dwelling units per acre applies to the Mixed-Use land use category per the Land Use Plan map. The Mixed-Use land use category is not appropriate nor well-suited for application to the Planning Reserve Areas which are mapped as three and five dwelling units per acre on the Land Use Plan map.

The Mixed-Use land use category is currently mapped in interior core areas of the city along Route 66 and I-40. The potential for future additional application and mapping of the Mixed-Use

land use category is more appropriate and applicable to interior areas of the city and to PRAs mapped at seven dwelling units per acre.

The Mixed-Use category may have an emphasis of either residential and non-residential. The objective is to mix the two to provide districts of housing, shopping, and employment. The uses may include those of the various residential housing types and categories, as well as other uses as described in the land use categories of Commercial Neighborhood, Commercial Regional/Community, Office/Business Park/Light Industrial, Industrial Light/Medium, Institutional, Parks, and Open Space. However, this category does not preclude single use developments.

Multi-modal: pertaining, but not limited, to the inclusion of more than one mode of travel, including automobile, transit, rail, air, bicycle, and pedestrian.

Neighborwoods: are open spaces near residents' homes, which provide easily accessible places where people can remove themselves from urban environments to engage in recreational activities. Neighborwoods extend from a neighborhood or community at a radius of approximately one to one-and-a-half miles.

Neighborhood Unit: an area comprised of approximately 100 to 160 acres. It may be a new development; a redeveloped area; or a combination of the two; or may consist of areas to be developed with supporting and complementary surrounding existing areas of development. To qualify it as a Traditional Neighborhood Design development, a neighborhood unit has certain attributes, which are found in the Traditional Neighborhood Design definition of the *Regional Plan*.

Open Space: The Open Space category is in any parcel or area of land or water essentially unimproved and set-aside, dedicated, designated, or reserved for public or private use or enjoyment, or for the use and enjoyment of owners and occupants of land adjoining or neighboring such open space. The term does not preclude low-impact recreational uses, such as hiking, fishing, or picnicking. Open Spaces include natural areas, greenways, trails, streetscapes, waterways, cemeteries, drainageways, floodplains, corridors, preserves, wildlife refuges, wetlands, and riparian areas. Open Space areas are used for passive recreation, and where specifically designated for other forms of recreation, such as bicycling, horseback riding, and fishing; agriculture; shaping the development of the city and other communities by limiting urban sprawl and containing growth; and spatial definition of urban areas. Open Space areas also may be preserved or restored for their aesthetic value, scenic areas and vistas, ecological value, archaeological and historic significance; and wildlife habitat and corridors. Open space lands are a complex mosaic of natural systems with a wide variety of qualities, values, and purposes affecting all other elements of the *Regional Plan*. The policies and supporting maps provide the framework and direction for future, more issue-specific or site-specific planning as land uses are developed and implemented in balance with resource preservation.

Parks/Recreation Area: a parcel or area of land either publicly- or privately-owned that is designated for recreation use. The term allows for both active and passive activities, as well as special use functions. Parks/Recreation Areas may include special use facilities set-aside for a single/specific use, such as recreation centers, golf courses, and swimming pools. The Parks/Recreation category is inclusive of all park classifications, including pocket parks, neighborhood parks, community parks, regional parks, conservation parks, and special purpose facilities, as defined in the *City of Flagstaff Long Range Master Plan for Parks, Recreation and Open Space Plan* and applicable Coconino County plans, but exclusive of Open Space lands.

Parks/Recreation Areas may extend onto adjacent lands, whether publicly- or privately-owned, and serve as an entry point to open spaces. The representation of proposed parks and park expansions, where known, are indicated both with boundaries (when parcels have been

identified) and with icons (when parcels have not been specifically identified but will be in the vicinity) on the supporting maps. The exact location of proposed and park expansions may have to be adjusted in accordance with population densities, sound design practices, availability and suitability of land, fiscal and funding constraints, accessibility, topographic and other ecological or cultural constraints.

Planning Reserve Area: a Land Use Plan map category within the Urban Growth Boundary. The PRAs are mapped at three, five, and seven dwelling units per acre indicating the required average density (see "Required Average Density").

Redevelopment: the replacement or reconstruction of buildings that either do not make efficient and effective use of the land on which they are located, or are in substandard physical condition. The areas indicated on the Redevelopment Plan are either currently characterized by or lend themselves to a variety of residential and non-residential land uses. Where appropriate, redevelopment areas will use the Mixed-Use category, which is a combination of residential and non-residential land uses. It may have an emphasis of either residential or non-residential. The objective being the mixing of the two to provide districts of housing and employment as permitted. The uses included are those of the various residential categories, as well as other uses as described in the land use categories of Commercial Neighborhood, Commercial Regional/Community, Office/Business Park/Light Industrial, Industrial Light/Medium, Institutional, Parks, and Open Space.

Required Average Density: The required average density is a gross density calculated on all land associated with residential development excluding: non-residential uses (corner store, day care center, etc., but not excluding private golf courses), and publicly-owned public spaces (such as parks and open space), except for rights-of-way associated with residential area development. In arriving at a required average density, multiple dwelling unit types may be utilized at various densities to achieve the required average density.

For those PRAs mapped on the Land Use Plan maps as a density of three or five, the required average density serves as both the minimum and maximum. For the PRAs mapped at a required average density of seven dwelling units per acre, the required average density of seven is the minimum, with no maximum density designated.

Rural Growth Boundary: the line on a map that is used to mark lands in unincorporated areas of the county that are suitable for rural development, as well as lands to be preserved as open lands.

Small Area Plans: special area plans for a defined neighborhood or area of the city or county, typically developed with the involvement of residents of the area for which the plan has been prepared, that serve as an amendment or adjunct to the city or county general or comprehensive plan.

Sprawl: development that can be characterized by the following factors:

- Low-density development that is dispersed and uses a lot of land;
- Geographic separation of essential places such as work, homes, schools, and shopping; and
- Almost complete dependence on automobiles for travel.

Traditional Neighborhood Design (TND): A Traditional Neighborhood Design development contains most or all of the following attributes:

1. The neighborhood has a discernable center, usually a main street, public square or green, typically bordered by civic buildings, shops, and/or residences.

2. The neighborhood has visually discernable edges where the neighborhood ends, formed by transportation corridors (such as major streets or rail lines), or by natural and agricultural landscapes.
3. The neighborhood is limited in size so that a majority of the population is within a five-minute walking distance of its center (1/4 mile). The needs of daily life are mostly available within this area: convenient work places, stores, community events, leisure opportunities and transportation connections to more distant places. This allows independence to those who do not drive, especially the elderly and the young.
4. The neighborhood has a variety of dwelling types. These usually take the form of houses, rowhouses, flats, apartment buildings, coach houses, and flats above stores, so that the young and the old, singles and families, the poor and the wealthy, can all find places to live. A small ancillary building is typically permitted and encouraged within the backyard of each house. In addition to providing parking, this small building may be used as one rental unit of housing or as a place to work.
5. The neighborhood has concentrations of civic, institutional and commercial activity embedded within it, not isolated in remote, single-use complexes. Schools are sized and located to enable children to walk or bicycle to them.
6. Dispersed throughout the neighborhood are a range of parks, from tot-lots and village greens to ballfields and greenbelts. Conservation areas and open lands are used to define and connect different neighborhoods and districts.
7. The neighborhood has streets laid out in a network, so that there are alternate routes to most destinations. This permits most streets to be smaller with slower traffic, and to have parking, trees and sidewalks. Such streets are equitable for both vehicles and pedestrians, encourage walking, and reduce the number and length of automobile trips.
8. The neighborhood places its buildings close to the street, so that streets and squares are spatially defined as 'outdoor rooms'. This creates a strong sense of the neighborhood's centers and streets as places, and of the neighborhood itself as a place.
9. The neighborhood utilizes its streets for parking. Parking lots and garages rarely if ever front the streets, and are typically relegated to the rear of the lot and accessed by alleys.
10. The neighborhood reserves prominent sites for civic buildings and community monuments. Buildings for education, religion, culture, and government either terminate street vistas or front neighborhood centers.
11. In the neighborhood, architecture and landscape design grow from local climate, topography, history, and building practice.
12. In the neighborhood, preservation and renewal of historic buildings and districts affirms the community and evolution of human society.

Traffic Congestion: a condition experienced when traffic grows beyond a point after which the level of service on a fixed capacity roadway deteriorates to unacceptable levels.

Transition Lands: also refers to Transition Zones and Open Space Transition Buffers adjacent to Public Lands: where the PRAs abut Forest Service Public Multiple-Use lands, a transition zone is recommended within the PRA which should be preserved in its natural state or developed at very low residential densities, such as at one dwelling unit per acre. The width of such a buffer would be determined based on, but not limited to, topographic conditions, preservation of washes, protection of ridges, protection of threatened and endangered plant species, conservation of old growth ponderosa pine trees, major roadways and utility lines.

Urban: an area with physical characteristics, levels of service, and land uses typically associated with more densely populated areas, such as paved streets; curb, gutter, and

sidewalk; public water and sewer; storm drainage systems; improved parks with active recreation and special use facilities; and police and fire services.

Urban Growth Boundary: the line on a map that is used to mark the separation of urbanizable land from rural land and within which urban growth should be encouraged and contained and outside of which urban development should not occur.

Area and Master Plans & References List

The following is a list of area and master plans currently in use by City and County departments. Master plans are used to implement a city's or county's general and comprehensive plans. The intent is that they be consistent with the goals and policies provided in the general and comprehensive plans. Some provided the framework for the development of the *Regional Land Use and Transportation Plan*, while others are the tools for the delivery and funding of services, facilities, and programs. Following the adoption of the *Regional Land Use and Transportation Plan*, it is expected that many of these plans will be revised as appropriate in conformance with the policies and strategies of the *Regional Plan*.

Title	**Date**
Canyon del Rio Development Guide	1984
City of Flagstaff Community Fire Protection Analysis	1998
City of Flagstaff Consolidated Plan, Affordable Housing	2001
City of Flagstaff Design Guidelines	2001
City of Flagstaff Land Development Code	1991
City of Flagstaff Long Range Master Plan for Parks, Recreation and Open Space	1996
City of Flagstaff Pulliam Airport Master Plan	1991
Design Handbook for Downtown Flagstaff	1997
Expanding Affordable Housing Opportunities for Flagstaff	1999
Flagstaff Redevelopment Area Designation and Redevelopment Area Plan	1992
Growth Management Guide 2000, City of Flagstaff	1987
McMillan Mesa Village Specific Plan	1992
The Woodlands Village at Flagstaff Specific Plan	1990
Bellemont Area Plan	1985
Coconino County Comprehensive Plan	1989
Coconino County Zoning Ordinance	1981
Doney Park Area Plans	1988
Fort Valley Area Plan	1990
Ft. Tuthill Master Plan	1996
Kachina Village Area Plan	1997
Mountainaire Area Plan	1991
A Vision for our Community: Flagstaff 2020	1997
Coconino National Forest Plan	1987
Greater Flagstaff Area Open Spaces and Greenways Plan	1998

The Traditional Neighborhood Design principles referred to in the *Regional Plan* are based on the principles developed by town planners Andres Duany and Elizabeth Plater-Zyberk and as edited by the staff of New Urban News and presented in its "New Urbanism and Traditional Neighborhood Development Comprehensive Report & Best Practices Guide."

Land Use and Growth Management Element

Table of Contents

Photo by Ryan Fitzgerald

Introduction

This element includes goals, rationale, policies and implementation matrices for the Land Use and Growth Management Element. This element covers Growth Areas, Housing and Neighborhoods, Commercial Development, Industry and Employment, Infill and Redevelopment, and Cost of Development.

The Regional and City Land Use Plan maps (Map 3: Regional Land Use Plan and Map 4: City Land Use Plan) identify land uses for all areas within the Flagstaff Metropolitan Planning Organization. Both maps convey the same information and were created to better illustrate detail, although it should be noted that land uses as shown on the Land Use Maps are not meant to be precisely parcel-specific.

The Land Use Plan identifies locations in the Flagstaff region where various land uses and intensities of use will be permitted to occur in the future. Although the Flagstaff Land Use Plan reflects previously adopted plans (including general plan *Flagstaff Growth Management Guide 2000*), current development trends, established land uses, and zoning patterns, the Land Use Plan sets the governmental policy regarding future zoning and land use patterns. It establishes and articulates broad policy established in the Policy Framework in keeping with the traditional role of the comprehensive plan as a framework for future development.

Growth Areas

The following policies relating to growth areas comply with and exceed the State Growing Smarter legislation (A.R.S. §9-461.05.D.2.) calling for the inclusion of:

> "a growth area element, specifically identifying those areas, if any, that are particularly suitable for planned multi-modal transportation and infrastructure expansion and improvements designed to support a planned concentration of a variety of uses, such as residential, office, commercial, tourism, and industrial uses. This element shall include policies and implementation strategies that are designed to:
>
> - Make automobile, transit and other multi-modal circulation more efficient, make infrastructure expansion more economical, and provide for a rational pattern of land development.

- Conserve significant natural resources and open space areas in the growth area and coordinate their location to similar areas outside the growth area's boundaries.
- Promote the public and private construction of timely and financially sound infrastructure expansion through the use of infrastructure funding and financing planning that is coordinated with development activity."

Principally and very specifically, the urban and rural growth boundaries (Map 7: Growth Boundaries) contained in the *Regional Plan* (Maps 3 and 4) and the areas within are the growth areas for the region.

Infill and Redevelopment

Infill and redevelopment is one of the major components to realizing the *Regional Plan's* goals of efficient use of land, appropriate land use patterns, opportunities for economic development, choices in mobility and transportation, and preservation of open spaces. *Vision 2020* promoted infill as a means to provide affordable housing for a variety of income levels. It recommended blending new models, such as New Urbanism, clustering, mixed-use development, and infill, with existing neighborhood attributes to enhance quality of life.

Some of Flagstaff's established neighborhoods and commercial and industrial corridors located along its major arterial roadways are a product of a time when the automobile dominated, land uses were segregated, and containing growth was not a prevailing principle. Consequently, land use patterns are not as efficient as they could be; transportation routes are discontinuous; neighborhoods are difficult to negotiate on foot or bicycle; and commercial services and employment are not convenient to nearby residents, nor are they necessarily significant destinations.

To encourage infill and reinvestment in established areas, State Growing Smarter legislation A.R.S. §9-499.10. provides for the designation of an infill incentive district if at least three of the following requirements are met:

1. There is a large number of vacant older or dilapidated buildings or structures.
2. There is a large number of vacant or underused parcels of property, obsolete or inappropriate lot or parcel sizes or environmentally contaminated sites.
3. There is a large number of buildings or other places where nuisances exist or occur.
4. There is an absence of development and investment activity compared to other areas in the city.
5. There is a high occurrence of crime.
6. There is a continuing decline in population.

If the governing body establishes an infill incentive district, it shall adopt an infill incentive plan to encourage development in the district. The plan may include:

- Expedited zoning or rezoning procedures.
- Expedited processing of plans and proposals.
- Waivers of municipal fees for development activities as long as the waivers are not funded by other development fees.
- Relief from development standards.

The areas indicated on the Redevelopment Area Plan (Map 23) are either currently characterized by or lend themselves to a variety of residential and non-residential land uses. Urban design plays a critical role in mixed-use development. It can create a livable environment that can revitalize a neighborhood or be one that sustains a variety of interactive land uses that

provide the synergy found in vital communities. Access to and from these areas is, of course, critical and the alternate modes of transportation as well as the roadways are a contributing component to the land use pattern. The intent of the Redevelopment Plan is to encourage high quality and well-designed redevelopment projects that may include mixed-use where appropriate. Land use and transportation changes to these areas should not be restricted by the existing land use designations or encumbered by a process that impedes the ability to implement the changes desired once detailed redevelopment or an area plan has been developed.

Flagstaff will reinvest in its developed areas creating improved economic vitality and a diverse palette of housing and transportation choices, using quality urban design that shapes development and redevelopment that reinvigorates and preserves community integrity, character, and livability. A redevelopment area has been designated for the city that consists of corridors and various neighborhoods as indicated on the Redevelopment Area Plan Map 23.

The areas contained within the Redevelopment Plan are to be considered infill incentive districts, as well, making use of the provisions in the state statue to encourage redevelopment in the district. These areas are characterized by some of the above conditions listed by the state. To promote and further their development or redevelopment potential, the incentive processes listed in the Growing Smarter legislation to expedite the review of proposals are enlisted to the extent that the areas are not subject to the Plan's Major Amendment processes. The intent is to redevelop these areas to meet the goals and the policies that attain viable and livable neighborhoods which offer alternate modes of transportation and a mix of land uses and housing types. In all cases, redevelopment plans for these areas will reflect the outcome of maximum public participation and neighborhood input and as required by state statute.

Some of the lands are designated Mixed-Use allowing for a range of uses, while the remainder of the lands indicated on the Redevelopment Plan is a broad mix of most of the land use categories. Regardless of the land use designation, the appropriate uses are intended not to be restricted by the specific Land Use Plan designation. In order to facilitate the infill and redevelopment of the numerous parcels of varying sizes and ownerships, as is always the case, the *Regional Plan* policies shall prevail over Land Use Plan designations in the areas of the Redevelopment Plan. A Major Land Use Plan map amendment would, therefore, not be necessary.

In conjunction with neighborhood density gradations of the Planning Reserve Areas, infill parcels are assigned Medium- to High-Density Categories and Mixed-Use Categories with a required average density of seven dwelling units per acre on the residential components of new development or redevelopment areas.

The land use designations on the Land Use Plan are somewhat based on a historical pattern of land uses. In many instances, the land uses are no longer viable for new markets nor do they meet the objectives and underlying principles of the *Regional Plan*. Mixed-Use, sustainable, walkable neighborhoods and activity centers meeting the needs of not only neighboring residents but a larger community or region are some of the primary objectives that need to be met in the transformation of portions of these redevelopment and infill areas. Consequently, within the Redevelopment Plan area the Land Use Plan is not intended to exclude other appropriate land uses that will further meet the *Regional Plan's* policies. It is expected, therefore, that within and around the areas depicted in the Infill/Redevelopment District more detailed planning will be required as these older areas take on a new prominence to establish their role as mixed-use corridors and more livable neighborhoods. To facilitate the process of redeveloping these areas, land uses as depicted on the Land Use Plan are subject to change without encumbrances of the Major Plan Amendment process set forth in the *Regional Plan* when a part of an area plan or redevelopment plan process. Should changes to the Roadway System Plan be required to support the land uses proposed as a part of an area plan, such

changes are considered a necessary component of the land use patterns and not subject to the Major Plan Amendment process of the *Regional Plan*.

The Mixed-Use Land Use Category is a combination of residential and non-residential land uses. It may have an emphasis of either residential or non-residential. The objective is to mix the two to provide districts of housing, shopping, and employment. The uses may include those of the various residential categories, as well as other uses as described in the land use categories of Commercial Neighborhood, Commercial Regional/Community, Office/Business Park/Light Industrial, Industrial Light/Medium, Institutional, Parks, and Open Space. The Mixed-Use Category does not preclude single use developments.

McMillan Mesa

A land use plan for McMillan Mesa, the McMillan Mesa Master Plan, was completed in the spring of 2002 following a public planning process. Because the Mesa planning process was still in progress when the *Regional Plan* was adopted in 2001 by the City Council and County Board of Supervisors and approved by the voters in 2002, the Mesa was considered to be "under study," and all decisions regarding the land use plan were deferred to completion of the Mesa Plan. Following completion of the Mesa Plan, its findings and recommendations were incorporated into the *Regional Plan* through a major amendment process conducted by the City Council in December of 2002.

There are existing development entitlements on private lands on the Mesa, as described in the *1992 McMillan Mesa Village Specific Plan*, which the *Regional Plan* cannot change unless the City purchases those lands. At the same time, the *Regional Plan* recognizes the special character of the Mesa as a natural area, and recommends that select City land be preserved in its natural state, and that funding be sought to acquire select private lands for preservation as open space.

As a result, the land use plan for the private land included in the *McMillan Mesa Village Specific Plan* reflects its existing zoning. However, if the City were to acquire private land for open space, the City would propose an amendment to the land use plan designating newly-acquired lands as Open Space or other purposes to be determined. It should be noted that nothing on the Land Use Plan map or in the *Regional Plan* is intended, nor can it be, to obstruct or alter any existing vested rights of landowners in the McMillan Mesa Area Study Boundary.

GOAL LU1

Greater Flagstaff will have a compact land use pattern within a well-defined boundary that shapes growth in a manner that preserves the region's natural environment, livability, and sense of community. Flagstaff will continue to offer the primary types of housing design developments that have defined its land use patterns: the conventional and traditional neighborhood scale which provide a choice of housing types and supporting non-residential uses within walking distances.

Rationale

The Flagstaff area has a relatively finite amount of developable private land. Roughly two-thirds of the area's approximately 48,000 acres of private land are already developed. Increasingly, development in the region has spread across the rural landscape because of the desirability of these rural environs. This leapfrog development is an inefficient use of land and natural and financial resources within the Flagstaff Metropolitan Planning Organization planning area. This dispersed development increases traffic congestion, and places a strain on the ability of the City and County to provide needed services and facilities, such as transportation, police, and fire and emergency services.

A compact land use pattern, on the other hand, shapes growth in a manner that preserves the region's natural environment, livability, and sense of community. The *Regional Plan* establishes an Urban Growth Boundary that identifies lands that are currently most appropriate for compact, urban development. These lands shall be planned for the full range of urban services, and are appropriate for annexation under appropriate conditions. By directing growth to well-defined contiguous areas, development is more efficiently served, open lands and natural resources can be better protected; public facilities and services can be delivered more effectively; neighborhoods can provide a greater range of options for housing types in more areas of the region; and a diverse range of transportation choices can be made available. With a finite supply of land, the *Regional Plan* shall provide for the region's growth in a manner that balances growth and conservation. It is recognized that state trust and privately-owned lands may be developed at their current zoning category unless they are acquired or protected for open space purposes.

Policies and Strategies

Implementation Matrix Key

In the "Time Frame" column, the first number indicates when the action should be initiated and the second number indicates when it should be completed relative to *Regional Plan* ratification. For example, "0–1" means the action should be initiated as soon as possible and be completed no later than within one year of plan ratification. These time frames are set with the understanding that they are meant as best estimates and may have to be adjusted given the numerous parties involved in implementation of any given strategy.

The following abbreviations are used throughout the matrix:

ADOT	Arizona Department of Transportation	**PRA**	Planning Reserve Area
CIP	Capital improvement Program	**RGB**	Rural Growth Boundary
FHWA	Federal Highway Administration	**UGB**	Urban Growth Boundary
FMPO	Flagstaff Metropolitan Planning Organization	**USFS**	United States Forest Service

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy LU1.1—Develop a Structural Framework for the Regional Land Use and Transportation Plan The *Regional Plan* sets the framework for implementing the region's desired land use pattern as defined by districts, activity centers, corridors, and public lands/multiple-use open spaces.	*LU1.1(a)—Develop and Implement a Structural Framework Plan* Develop more detailed plans for individual districts, activity centers, and commercial corridors.	City	0-5
Policy LU1.2—Establish an Urban Growth Boundary The *Regional Plan* establishes an Urban Growth Boundary (UGB) for lands within and adjacent to the city, identifying areas that are presently suitable for urban development, areas that are suitable for future urban development, and areas to be preserved as open lands.	*Strategy LU1.2(a)—Adopt and Utilize Urban Growth Boundaries* Urban growth boundaries recognize areas of concentrated development within the city through a phased time frame. Two stages of urban growth boundaries are established as a part of the *Regional Plan* per the Land Use Plan.	City & County	0-1 Adopt concur-rently with *Regional Plan*
	Strategy LU1.2(b)—Establish a Stage 1 Urban Growth Boundary The Stage 1 Urban Growth Boundary is initially established to accommodate the land supply needed for projected growth for the next 20 to 25 years. Lands most suitable for urban development in the near-term have been specifically identified and designated for various urban uses in the *Regional Plan*. Such lands shall be considered as priority areas for future growth.	City & County	0-1 Adopt concur-rently with *Regional Plan*
	Strategy LU1.2(c)—Review the Stage 1 Urban Growth Boundary Approximately Every Five Years The Stage 1 UGB shall not be viewed as a permanent boundary. From time to time, it shall be reviewed to ensure that it contains an appropriate supply of developable land, and if necessary, modified no less than every five years to include lands presently outside of the Stage 1 UGB. This review shall occur according to established criteria and procedures adopted as a part of the Implementation Program for the *Regional Plan*, and may also be reviewed in conjunction with a comprehensive update of the *Regional Plan*.	City & County	0-5 Adopt criteria concur-rently with *Regional Plan* and review UGB every 5 years

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
	Strategy LU1.2(d)—Establish a Stage 2 Urban Growth Boundary The *Regional Plan* establishes a Stage 2 Urban Growth Boundary that represents remaining lands designated for development. The Stage 2 Urban Growth Boundary borders with public lands identified in the *Greater Flagstaff Area Open Spaces and Greenways Plan* as high priority lands for open space, so that both urban land uses and open lands shall serve as a defining element of the region's Urban Growth Boundary.	City & County	0-1 Adopt concur-rently with *Regional Plan*
	Strategy LU1.2(e)—Define Criteria for Reviewing the Stage 2 Urban Growth Boundary The Stage 2 UGB shall be reviewed on a periodic basis to determine if changes in regional conditions, such as unique and significant economic development opportunities or reclassification of public lands status, warrant expansion of the Stage 2 Urban Growth Boundary. This review shall occur according to established criteria and procedures, and/or shall be reviewed in conjunction with a comprehensive update of the *Regional Plan*. (See Amendment Section for review criteria.)	City & County	0-1 Adopt concur-rently with *Regional Plan*

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy LU1.3—Designate Areas to be Reserved for Future Urban Development Lands suitable for future urban development have been specifically identified and designated in the *Regional Plan* as Planning Reserve Areas within the Urban Growth Boundary. These lands shall serve as a "holding area" for future urban development.	*Strategy LU1.3(a)—Establish a Process for Redesignating Planning Reserve Area Lands* Prior to consideration for development, lands designated as Planning Reserve Area (PRA) shall require reclassification and rezoning for specific urban uses. This review shall occur according to established criteria and procedures, and may also be reviewed in conjunction with a comprehensive update of the *Regional Plan*. (See Amendments section for review criteria.) The process for re-designation would include a determination of appropriate land uses, demonstrating adequacy of public facility standards, and consistency with policies of the *Regional Plan*. PRA lands within the Stage 2 Urban Growth Boundary must be included with in the Stage 1 UGB before they shall be considered for reclassification and rezoning for specific urban uses.	City & County	0-1 Adopt concur-rently with *Regional Plan*
	Strategy LU1.3(b)—Establish Required Average Densities for Planning Reserve Areas Require average densities for development within Planning Reserve Areas within the Urban Growth Boundary through zoning regulations or overlay districts, in order to reduce the amount of land consumed, to facilitate the protection of urban open space with access to public lands, and to ensure that future urban development utilizes land and infrastructure efficiently. New residential areas should have a required average density that ranges from three to five to seven dwelling units per acre as mapped on the Land Use Plan, achieved with a mix of housing types master-planned over a land area of size adequate to meet these required average densities.	City takes lead, with County action as appropri-ate in county islands inside Urban Growth Boundary	0-1
Policy LU1.4—Encourage Development Within the Urban Growth Boundary Lands designated for compact development shall be made more attractive to develop than lands outside the Urban Growth Boundary (UGB). By aligning public policies and investments with this policy, the *Regional Plan* can assure preservation of open space lands outside the UGB, thus preserving the character of the community and minimizing sprawling development.	*Strategy LU1.4(a)—Create Incentives for Development Within the Urban Growth Boundary* Development on land within the Urban Growth Boundary shall be encouraged relative to development on lands outside the Urban Growth Boundary. Examples of incentives that might be used include expediting development approvals, reduced fees, tax-supported infrastructure, public/private partnering, and code and regulation revisions.	City & County	0-3

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
	Strategy LU1.4(b)—Work with State and Federal Land Management Agencies in Implementing Urban Growth Boundary Policies Develop an Intergovernmental Agreement with federal and state agencies to discourage disposition of high priority lands by sale or trade outside or adjacent to Urban Growth Boundaries. Utilize Arizona Preserve Initiative authority to designate high priority parcels of State Trust lands as conservation lands, and seek to acquire such designated lands.	City & County, State and Federal land manage-ment agencies	0-3
	Strategy LU1.4(c)—Maintain Access to Public Lands From Within Urban Growth Boundaries Maintenance of historic access points and routes to public lands from adjacent lands through provision of easements or trail corridors shall be strongly encouraged when development occurs. Consideration shall be given to compensation for required access from private lands, as appropriate.	City & County	Through-out life of *Regional Plan*
Policy LU1.5—Provide for New Mixed-Use Neighborhoods The *Regional Plan* designates new development areas within the Urban Growth Boundary for development as mixed-use neighborhoods. The criteria for these areas includes average densities, a mix of mutually supportive and integrated residential and non-residential land uses, and a network of interconnected streets, and pedestrian and bicycle connections. Designated areas include Canyon del Rio and the West Side Area, and may include other future areas identified as Planning Reserve Areas. Additionally, existing older neighborhoods, such as Southside, Sunnyside, and parts of downtown, may be suitable for limited and sensitively designed mixed-use development.	*Strategy LU1.5(a)—Prepare District, Neighborhood and/or Small Area Plans to Implement Mixed-Use Development* Develop district, neighborhood and/or small area plans with an urban design component to refine and implement mixed-use development in appropriate areas.	City	1-5
	Strategy LU1.5(b)—Establish Relationship Between Area or District Plans and Regional Plan The policies of the *Regional Plan* shall be incorporated into area, district or neighborhood plans in a manner that takes into account localized conditions and preferences of area residents.	City & County	1-3

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy LU1.6—Require Urban Development to Locate within City Boundaries In order to ensure that all urban development can be provided with adequate public facilities and services, it is the policy of this *Regional Plan* that all urban land uses shall be located within the Urban Growth Boundary, within the city's corporate boundary limits. The *Regional Plan* encourages urban land uses to locate only within incorporated areas in order to obtain City services, utilities, and fire protection. The City shall consider the annexation of land into the city limits when the annexation of such property is consistent with the goals and policies of the *Regional Land Use and Transportation Plan*.	*Strategy LU1.6(a)—Target Public Investments* Adopt Capital Improvement Program and local services policies to target infrastructure improvements within the Urban Growth Boundary, within the city's corporate limits, including newly annexed areas.	City & County	Annually through-out life of *Regional Plan*
	Strategy LU1.6(b)—Annex Urban Lands to the City In order to ensure that adequate public facilities and services can be provided to urban areas, land within the unincorporated areas of the county that are proposed for urban levels of development within the Urban Growth Boundary shall be required to consult with the City regarding annexation into the city limits. Failure to reach agreement for annexation will not impact on potential for development within the county.	City & County	Annually through-out life of *Regional Plan*
	Strategy LU1.6(c)—Utilize Conceptual Land Use Planning Prior to Disposition of State Lands In consultation with the City and County, conceptual land use plans should be prepared by the State Land Department for any lands that are being considered for disposition.	City, County & State Land Dept	0-5
	Strategy LU1.6(d)—Establish a Mutual Review Process Between the City and County for Development Projects With the exception of single-family units, a proposed urban development or proposal that is located, in part or whole, within county island lands (lands under county jurisdiction located within the boundaries of the city) and lands adjacent to county islands are subject to mutual review by the City and County.	City & County	Through-out life of *Regional Plan*

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy LU1.7—Promote Infill Development If properly designed, infill development can serve an important role in achieving quality, mixed-use neighborhoods. The *Regional Plan* promotes infill development in the city's Urban Growth Boundary, in preference to development of outlying or more remote lands adjacent to the city. Development of infill areas in the city shall occur in a manner that is in character and context with existing, surrounding development. In some instances, sensitively designed, high quality infill development can help stabilize and revitalize existing older neighborhoods.	*Strategy LU1.7(a)—Implement McMillan Mesa Master Plan* The McMillan Mesa planning process concluded with a major amendment to the *Regional Plan*, adopted by the City Council, to implement the recommendations of the McMillan Mesa Master Plan. The primary focus of the Master Plan, and the major amendment, is to preserve significant City and private land holdings in the study area as natural open space, while still allowing for some development of other uses and giving consideration to protection of viewsheds and open space corridors and enhancement of quality design. The *Regional Plan* recognizes that certain private lands on the Mesa have approvals in place for development, and that unless they are acquired by the City, these development entitlements cannot be altered.	City	1-5
	Strategy LU1.7(b)—Acquire Access Easements or Open Lands Proceeds from City-owned land that is disposed, sold, or leased for development shall be used to acquire non-motorized access easements, as a priority, or to purchase high priority open lands or critical urban open space lands.	City	Through-out life of *Regional Plan*
	Strategy LU1.7(c)—Develop Community-Based Infill Programs Develop neighborhood infill programs that provide residents with the opportunity to gain familiarity with and provide input on urban design, existing development, compatibility, scale, landscaping and other land use patterns.	City	Through-out life of *Regional Plan*
	Strategy LU1.7(d)—Designate Infill Incentive Areas Where appropriate, designate infill incentive areas that will benefit the neighborhood through the development and application of incentives for development.	City	Through-out life of *Regional Plan*

Policy	*Strategy*	*Responsible Party*	*Time Frame/ Years*
Policy LU1.8—Promote Targeted Redevelopment The *Regional Plan* identifies areas in the city that may be appropriate for redevelopment due to substandard physical conditions. The intent is to promote and facilitate redevelopment of targeted areas, including consideration of specific area plans, active participation by the City in redevelopment projects, and identification of potential financing sources for projects. Objectives include targeting redevelopment to specific, identified areas; orientation towards resident ownership of housing; stabilization and preservation of existing neighborhoods; and quality design that fosters a sense of neighborhood and community.	*Strategy LU1.8(a)—Target Public Investments* Adopt Capital Improvement Program and local services policies to target infrastructure improvements to preferred infill development and redevelopment areas.	City	Annually throughout life of *Regional Plan*
	Strategy LU1.8(b)—Provide Incentives to Foster Reinvestment Incentives can be utilized in a number of ways to encourage infill and redevelopment. Regulatory incentives can be used to streamline the development approval process. Financial incentives, such as rehabilitation loans/grants, if targeted and strategic, can be utilized to support additional investment in the community as well as to assist existing residents to remain in areas that are redeveloping.	City (regulatory and financial) and County (financial)	0-3 (regulatory incentives) 1-3 (financial incentives)
	Strategy LU1.8(c)—Prepare Design Standards Adopt compatibility standards to ensure that new development fits within existing neighborhoods in terms of scale, design, etc. Adopt flexible zoning standards to encourage infill and redevelopment (e.g., allow nearby on-street parking in meeting overall parking requirements).	City	1-3
	Strategy LU1.8(d)—Review Regulations Review and revise City and County land use regulations to ensure that they support and enable the policies of this *Regional Plan*, desired patterns of infill and development, and that they restrict undesired patterns.	City & County	0-1 (regulatory incentives) 1-3 (code revisions)
	Strategy LU1.8(e)—Apply Fiscal Impact Considerations Develop partnerships and financing mechanisms to help achieve redevelopment objectives, such as development fees and impact fees that are lower in targeted infill/redevelopment areas, programs that provide tax-advantaged financing for projects, and other creative mechanisms to facilitate development.	City with County support; non-profit organizations	Throughout life of plan

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy LU1.9—Promote Quality Design The *Regional Plan* promotes quality design and development. Particular emphasis shall be placed on improved character of the public realm, including attention to streetscape design, and sensitivity to neighborhood character and context for new development in or near existing neighborhoods. Quality design shall be an important element in successful infill development and redevelopment. In addition, plan policies have been developed which address design standards that minimize risks due to natural hazards, such as floods and wildfire.	See Strategies for Quality Design in the Community Character and Design Element		
Policy LU1.10—Place Emphasis on all Transportation Modes The *Regional Plan* provides for key roadway connections, with highest priority for missing pieces in core parts of the street grid system, including north/south connections. All commercial and residential areas shall include full accommodation for pedestrian and bicycle travel and transit access.	See Strategies in the Transportation Element		
Policy LU1.11—Place Emphasis on and Encourage Traditional Neighborhood Development and Redevelopment Design The *Regional Plan* promotes the creation and establishment of neighborhood units with mixed land uses, a variety of dwelling types, activity centers that are walkable, alternate modes of transportation routes, and design that is sensitive to existing surrounding development.	*Strategy LU1.11(a)—Develop and Apply Various Tools to Achieve Development and Establishment of Traditional Neighborhoods with Mixed-Uses* Use Traditional Neighborhood Design criteria, overlay districts, and incentives to develop Planning Reserve Areas; undeveloped infill sites specifically those designated commercial, and medium- and high-density residential; and redevelopment areas	City	0-1

GOAL LU2

The integrity of individual communities in the county will be supported by maintaining separation between existing communities; respecting existing area plans, as well as encouraging consistency with the *Regional Plan*; and preserving the integrity of open space boundaries identified in the *Greater Flagstaff Open Spaces and Greenways Plan*, as a major defining element of the Region's Growth Area Boundaries.

Rationale

Residents of the rural areas in the county have expressed a strong desire to preserve the rural character and lifestyle they currently enjoy. These characteristics include rural densities, access to national forest lands, scenic views, and clear night skies. The current pattern of dispersed rural development in the unincorporated portions of the Flagstaff Metropolitan Planning Organization planning area has begun to adversely affect this character. Therefore, the *Regional Plan* incorporates strategies to protect and enhance the rural character and particularly the public lands that help define this character.

The *Regional Plan* calls for the establishment of Rural Growth Boundaries (RGB) around areas that are suitable for rural development. The Rural Growth Boundaries include established and establishing areas with concentrated development activity. The majority of rural development shall be directed within RGB areas and away from rural pockets of isolated private land. The *Regional Plan* also recognizes that the forested lands and meadows throughout the region are a precious resource that must be preserved and maintained. The *Regional Plan* endorses the goals established by the *Greater Flagstaff Area Open Spaces and Greenways Plan* to preserve open lands that separate and define rural communities and to protect important public lands from private development.

It is also important to maintain the rural character around the periphery of the planning area in order to protect the integrity of this *Regional Plan* and the defined urban and rural growth boundaries. New urban centers or communities should not be developed in areas just outside of the *Regional Plan* boundaries.

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy LU2.1—Establish Rural Growth Boundaries The *Regional Plan* establishes Rural Growth Boundaries for lands in unincorporated areas of the county that are suitable for rural development. The primary objective of these areas shall be to define the extent of lands within the county that are suitable for rural development, preserve their character, retain open lands separating these communities, and to protect public multiple-use lands designated as priority for open space retention from conversion to private use for development. In general, residential development in unincorporated areas shall be in accordance with existing zoning, except as provided for in Strategy CFS1.1(d).	*Strategy LU2.1(a)—Adopt and Utilize Rural Growth Boundaries to Manage Development in Existing Communities and Restrict Development in Outlying Areas* Rural Growth Boundaries (RGB) shall recognize major areas of concentrated development activity, and shall generally coincide with existing communities, such as Doney Park, Kachina Village, Mountainaire, and Fort Valley. Multiple RGB areas are designated in order to accommodate the current development pattern in the county. Lands most suitable for rural development have been specifically identified and designated for very low-density uses in the *Regional Plan*. Establishment of new RGB areas, and further transfer of public multiple-use lands to private ownership for development purposes, shall be discouraged. The Forest Service shall be encouraged to consider acquisition of private undeveloped parcels in isolated locations, such as in the Hart Prairie area, as high priority open lands.	County	Adopt concur-rently with *Regional Plan*
	Strategy LU2.1(b)—Work with State and Federal Land Management Agencies to Implement Rural Growth Boundary Policies Develop an intergovernmental agreement with federal and state agencies to discourage disposition of high priority lands by sale or trade outside or adjacent to Rural Growth Boundaries. Utilize Arizona Preserve Initiative authority to designate high priority parcels of State Trust lands as conservation lands, and seek to acquire such designated lands.	County lead with City assis-tance; State and Federal land manage-ment agencies	0-3
	Strategy LU2.1(c)—Work with the State Legislature to Restrict Unregulated Lot Splits Efforts shall be continued to lobby the state legislature to add further restrictions and controls on the land division process in order to discourage questionable lot splitting and encourage legal lot divisions. One possibility is establishing a date of record for all land parcels. Once such a date is established, building permits shall be denied on any parcel split more than five times. After that date, unless a legal subdivision is created, parcels shall not be eligible for a building permit.	County lead with City support	0-3

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
	Strategy LU2.1(d)—Define Criteria for Reviewing a Rural Growth Boundary From time to time, it may be necessary to review and modify a Rural Growth Boundary to reflect changes in local or regional conditions. This review shall occur according to established criteria and procedures adopted as a part of the Implementation Program for the *Regional Plan*, and may also be reviewed in conjunction with a comprehensive update of the *Regional Plan* and/or a county area plan. (See Amendment Section for review criteria.)	County	Adopt concur-rently with *Regional Plan*
	Strategy LU2.1(e)—Address Open Space Issues Related to Rural Growth Areas Use county area plans to address peripheral and internal open space issues related to low priority public lands.	County and county area plan commit-tees	1-5
	Strategy LU2.1(f)—Maintain Access to Public Lands From Within Rural Growth Boundaries Maintenance of appropriate historic access points and routes to public lands from adjacent lands through provision of easements or trail corridors shall be strongly encouraged when development occurs. Consideration shall be given to compensation for required access from private lands, as appropriate.	City & County	Through-out life of *Regional Plan*
Policy LU2.2—Establish Opportunities for Rural Activity Centers The *Regional Plan* incorporates opportunities for activity centers in specifically designated areas in the county. These centers shall be characterized by a defined range of uses as appropriate to each individual location and community, and by size limits and design standards so as to maintain a scale appropriate to the community it serves.	See Strategies for Rural Activity Centers in the Commercial Development policies		

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy LU2.3—Promote the Coordination of Regional Plan and Area Plans The *Regional Plan* includes recommendations that apply to areas that currently have area plans in place, or for which area plans shall be developed in the future or are currently under development. The intent is that, over time, the policies of the *Regional Plan* shall be incorporated into area plans, in a manner that takes into account local conditions and preferences of area residents.	*Strategy LU2.3(a)—Establish a Process to Identify and Resolve Conflicts Between the Regional Plan and County Area Plans* During the transitional period, while the *Regional Plan* and area plans are being coordinated, the County shall make efforts to identify potential areas of conflict and/or inconsistency and adopt county resolutions that take into account local conditions and preferences of area residents. *Strategy LU2.3(b)—Utilize Conceptual Land Use Planning Prior to Disposition of State Lands* In consultation with the City and County, conceptual land use plans should be prepared by the State Land Department for any lands that are being considered for disposition.	City & County; county area plan commit-tees	1-5
Policy LU2.4—Cluster Development as an Alternative Development Pattern The County shall continue to allow cluster development in appropriate locations as a means of preserving rural resources, such as wildlife habitat and open space, and to minimize service and utility costs.	See Strategies for Cluster Development in Housing and Neighborhoods Policies.	County	Through-out life of *Regional Plan*
Policy LU2.5—Restrict Development At the Periphery of the Planning Area Rural character should be preserved in areas that are at the periphery or just outside the boundaries of the Planning Area, as defined by the Flagstaff Metropolitan Planning Organization boundary.	*Strategy LU2.5(a)—Restrict Development at the Periphery of the Planning Area* Areas that are at the periphery or just beyond the boundaries of the Planning Area, as defined by the Flagstaff Metropolitan Planning Organization boundary, shall be restricted from development at other than very low densities in accordance with existing County zoning; and rezoning of county lands for urban development purposes shall be prohibited in order to ensure that urban development does not occur in inappropriate locations.	County	Through-out life of *Regional Plan*

GOAL LU3

The *Regional Land Use and Transportation Plan* will be coordinated with state and federal land management policies.

Rationale

Flagstaff is surrounded by land under public jurisdiction. More specifically, nearly 75 percent of land in the FMPO is under jurisdiction of the U.S. Forest Service and the National Park Service, while 8 percent is under jurisdiction of the State Land Department. Federal and state lands provide scenic views, wildlife habitat and corridors, community buffers and recreation opportunities. It is expected that the majority of these lands, particularly the Forest Service lands, will remain intact as open lands. Some areas of USFS and State Trust lands close to the city are identified as low priority for open space retention in the *Greater Flagstaff Area Open Spaces and Greenways Plan* and may be subject to development pressure because of land exchanges.

The City and County currently have limited legal control over the sale and use of federal and state lands, and current agreements with these agencies relating to the preservation of lands in accordance with the *Greater Flagstaff Area Open Spaces and Greenways Plan* have inadequate authority. Therefore, the *Regional Plan* calls for coordination with federal and state agencies and respective land management policies to ensure that future land exchanges or sale decisions of low priority lands are made in accordance with the *Regional Plan*.

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy LU3.1—The City and County Shall Work with Federal and State Agencies to Better Manage Future Urban Lands in a Manner Consistent with City and County Planning Policies	*Strategy LU3.1(a)—Coordinate with the State Land Department on Planning for State Trust Land* Coordinate with the State Land Department on land use planning and zoning authority on State Trust land.	City, County, State Land Depart-ment	0-5
	Strategy LU3.1(b)—Coordinate with the U.S. Forest Service on Land Ownership Adjustments Coordinate with the U.S. Forest Service on land ownership adjustments to ensure consistency with the *Regional Plan* and area plans.	County with City assis-tance, USFS	Through-out life of *Regional Plan*
	Strategy LU3.1(c)—Amend Forest Service Management Plans in Coordination with Regional Plan Policies The City and County shall coordinate with the Forest Service to assure consideration of the policies and strategies contained in the *Flagstaff Area Regional Land Use and Transportation Plan* during future Forest Service planning processes.	City, County, USFS	0-10
	Strategy LU3.1(d)—Coordinate with State Land Department on Management Plans The City and County shall work with the State Land Department to gain amendments to the State Land Use Plan that recognize the policies contained in the *Flagstaff Area Regional Land Use and Transportation Plan*.	City, County, State Land Depart-ment	0-5

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
	Strategy LU3.1(e)—Coordinate with ADOT and FHWA The City and County shall coordinate with ADOT and Federal Highways Administration on transportation systems for consistency with the *Regional Plan* and area plans.	City, County, ADOT, FHWA	Through-out life of *Regional Plan*
	Strategy LU3.1(f)—Protect Lands Around National Monuments or Other Sensitive Lands from Inappropriate Development Maintain or impose very low-density zoning or, if appropriate, open space zoning, around national monuments.	City, County, USFS (FLEA process), State Land Depart-ment	0-3
	Strategy LU3.1(g)—Utilize Conceptual Land Use Planning Prior to Disposition of State Lands In consultation with the City and County, conceptual land use plans should be prepared by the State Land Department for any lands that are being considered for disposition	City, County, State Land Depart-ment	0-3
Policy LU3.2—Pursue Master Planning and Establish Open Space Buffers on Lands Adjacent to Forest Service Lands. Where appropriate and feasible, conserve a buffer of open space lands adjacent to Forest Service urban interface wildlands.	*Strategy LU3.2(a)—Prepare Master Development Plans for Planning Reserve Areas to Provide Open Space Buffers* Prepare master development plans for Planning Reserve Areas that provide as much open space buffer as is practicable between development and Forest Service lands given topography, resources, adjacent uses, accessibility and other determining factors.	City, County, USFS	Through-out life of *Regional Plan*
Policy LU3.3—Mitigate the Impacts of Usage on Forest Service Lands The City and County shall work with the Forest Service and residents to mitigate impacts of usage on Forest Service lands.	*Strategy LU3.3(a)—Enter into Agreements with the Forest Service* The City and County shall pursue agreements with the Forest Service to jointly and collaboratively designate trailheads and associated facilities; provide adequate law enforcement; involve and inform the public of their needed participation in recognizing the benefits and consequences that come with living adjacent to Forest Service lands, and undertake other programs to mitigate the impacts of usage on Forest Service lands.	City, County, USFS	Through-out life of *Regional Plan*

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy LU3.4—Work Towards Determining Appropriate Levels of Recreational Uses in Urban Interface Area The Forest Service, in conjunction with the City and County, will work towards determining the most appropriate levels of recreational uses, relationships, and interactions that should occur on the urban interface Forest Service lands.	*Strategy LU3.4(a)—Use the Forest Service's Recreation Opportunity Spectrum in Urban Interface Area* Use the Forest Service's Recreation Opportunity Spectrum, which serves as a framework for uses ranging from primitive to urban, as a guide to determine appropriate levels and types of recreation uses on the Forest Service urban interface lands.	City, County, USFS	Through-out life of *Regional Plan*
	Strategy LU3.4(b)—Protect Lands as Open Space Where Adjacent to U.S. Forest Service Lands On those lands immediately within the Urban Growth Boundary and adjacent to USFS urban interface wildlands, the City shall pursue, through the development master plan and design review process and acquisition, if feasible, the maintenance of these lands as an open space buffer.	City, USFS	Through-out life of *Regional Plan*

COMMERCIAL DEVELOPMENT

GOAL C1

Shopping and service areas will be convenient to residents as well as visitors to the region in a manner that meets their needs, while remaining compatible with surrounding land uses.

Rationale

The City of Flagstaff contains numerous commercial areas that provide the necessary goods and services for visitors and regional, community, and neighborhood residents. The location and design of these areas not only has a profound effect on the financial success of commercial businesses, but also on the quality of life for the residents of the region. Regardless of whether a commercial center is intended to serve neighborhood, community, or regional functions, commercial developments must be located and designed to balance pedestrian and automobile (and in many cases, transit) access, facilities, and comfort. In addition, the location and design of commercial centers must be incorporated into surrounding areas, rather than altering the character of surrounding land uses and neighborhoods. Encouraging a mix of uses will increase the importance and vitality of commercial centers, while utilizing the joint use of parking and reducing the need for numerous automobile trips.

Policies and Strategies

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy C1.1—Designate Commercial Areas According to their Role and Function in the Region Commercial areas are designated as community/regional, neighborhood commercial, or regional activity centers, district activity centers, and rural activity centers, depending on scale, location and intensity of use. Community and regional shopping centers should be located in planned commercial centers in the city, in or near existing or planned major activity centers in the region. The development of commercial areas in linear, "strip" configurations along roadways shall be discouraged.	*Strategy C1.1(a)—Apply Locational Considerations* Target new commercial (retail, office, etc.) development to identified regional, district or rural activity centers, or to other planned commercial areas. Rezone land to prevent strip commercial development along new major roadways. Adopt policies and standards to support commercial redevelopment in selected locations, such as infill and redevelopment designated areas, including location standards and design compatibility regulations.	City & County	0-3

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy C1.2—Apply Design and Locational Standards for Large Retail Commercial Developments Including "Big-Box" Retail Large retail establishments ("big-box" retail) shall be permitted only in regional and community-scale shopping centers, in areas of the city where adequate access and services can be provided, and shall be required to meet a basic level of architectural variety, compatibility of scale with surrounding areas, pedestrian and bicycle access, and mitigation of negative impacts such as large parking areas.	*Strategy C1.2(a)—Adopt Design Standards for Large Retail Commercial Developments Including "Big-Box" Establishments* Develop and adopt design standards for all commercial developments, including big-box retail (e.g., architectural standards, parking lot landscaping/configuration, pedestrian access, etc.).	City & County	0-1
	Strategy C1.2(b)—Apply Locational Requirements Prohibit large retail commercial developments including "big-box" establishments outside the Urban Growth Boundary; and require arterial access.	City & County	0-1
Policy C1.3—Include a Mix of Uses in New Commercial Development and Redevelopment New development shall include a mix of uses in the city and county, avoiding large, single-use buildings and dominating parking areas.	*Strategy C1.3(a)—Encourage Mixed-Use Development* Consider zoning regulations limiting single-use buildings and supporting mixed-use developments and structures. Vertical mixed-use (multi-story buildings) shall be promoted with housing and/or offices located above ground floor retail and services. The height of mixed-use developments shall not alter the character of the neighborhood.	City & County	0-1
	Strategy C1.3(b)—Encourage Appropriate Parking Supply and Design Adopt standards that provide appropriate number of parking spaces and quality design.	City & County	0-1

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy C1.4—Promote A High Quality Urban Environment in all Commercial Development Areas The physical environment of commercial development areas shall promote air quality and a high quality urban environment that provides for walking, bicycling, and transit opportunities.	*Strategy C1.4(a)—Adopt Design Guidelines* The City shall adopt design guidelines to enhance the quality of the urban environment.	City	0-1
	Strategy C1.4(b)—Place Limits on Drive-Through Facilities Address the design impacts of drive-through facilities by limiting the number of drive-through windows, require adequate stacking space for vehicles and other design considerations.	City & County	0-1
	Strategy C1.4(c)—Encourage Appropriate Multi-modal Designs Adopt standards to encourage appropriate parking supply and design and to promote a walking, bicycling, and transit-type quality urban design.	City & County	0-2
Policy C1.5—Design and Establish Neighborhood Commercial Centers Neighborhood commercial centers in the city are designed as pedestrian-oriented gathering places with a mix of retail, office, and service uses, providing the goods and services necessary to meet the needs of the neighborhood while reflecting the identity and character of the surrounding residential neighborhoods.	*Strategy C1.5(a)—Develop Criteria for Neighborhood Commercial Centers* Revise development codes to support mixed-use neighborhood commercial centers. Encourage neighborhood commercial centers as an integral part of new large residential subdivisions.	City & County	0-1
	Strategy C1.5(b)—Adopt Policies to Encourage Redevelopment of Older Neighborhood Centers Support redevelopment of aging neighborhood centers in order to achieve mixed-use goals of the *Regional Plan* using methods such as Tax Increment Financing.	City	0-3

GOAL C2

Downtown Flagstaff will continue to serve as the focal point of the community, as established by development intensity, land use, building height, and high quality urban design.

Rationale

In 1983, Downtown Flagstaff achieved National Historic District status, which encouraged the rehabilitation of architecturally significant historic buildings. Since then, significant public and private development and investment have been refocused to the Downtown area. Today, Downtown Flagstaff is the heart of the community and serves as the regional center for finance, culture, and government. Downtown's role as focal point for the community and region will continue because of its unique architectural and historic heritage and its capacity to support a variety of activities requiring a high level of personal interaction and communication. The *Regional Plan* encourages activities, uses, and design improvements to reinforce Downtown as a diverse place, offering a range of activities, drawing people throughout the day and evening.

Policy	***Strategy***	***Respon-sible Party***	***Time Frame/ Years***
Policy C2.1—Reinforce the Role of Downtown The role of Downtown shall be reinforced by making Downtown more accessible; supporting a variety of uses as a focal point for the entire region; improving the appearance of the area; and promoting the preservation of the original architecture of historic buildings.	*Strategy C2.1(a)—Implement Downtown Flagstaff Design Regulations* Continue to support and implement design standards and historic preservation regulations and expand the historic district design review area to preserve the character of Downtown. *Strategy C2.1(b)—Support Downtown Business Organization* Continue to support appropriate improvement efforts by downtown businesses.	City City	0-3 Through-out life of *Regional Plan*

GOAL C3

Commercial uses in the county will be located in activity centers in specifically designated areas intended to serve as focal points for the community in which they are located, and they will provide opportunities to meet area resident needs locally, while avoiding a strip commercial pattern of development along the region's major roadways.

Rationale

Commercial uses are located at several locations in the unincorporated county, primarily along the major highways, and serve both neighborhood residents and highway travelers. Most of the county area plans have called for future commercial development to be located in nodes at the intersections of arterial and collector roadways, and have stated a preference for neighborhood commercial centers. Commercial strips are highly discouraged because of traffic safety issues and undesirable aesthetic conditions. Because of the location of the commercial uses along the highly traveled entryways to Flagstaff, and because maintenance of community character is an established goal, the design of future commercial centers is important. Due to the diversity of unincorporated communities, it is desirable to create rural activity centers that meet the local needs and reduce the requirement to travel out of the area to meet day-to-day needs.

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy C3.1—Define Appropriate Uses for Activity Centers Activity centers shall be characterized by a defined range of uses appropriate to each individual location and community, which may include small-scale retail, offices, schools, transit stops, parks, or other civic uses and other business and personal services designed to meet the needs of area.	*Strategy C3.1(a)—Design Standards for Activity Centers* Activity centers shall be designed in a manner that is compatible with the character of the area in which they are located, with size limits and design standards so as to maintain a scale and architectural character appropriate to the community it serves. A pedestrian environment shall be provided and links established with adjacent residential neighborhoods and civic uses, where appropriate.	City & County	0-1 (City) 0-3 (County)
	Strategy C3.1(b)—Adopt Zoning Regulations to Accommodate Activity Centers Review and adopt zoning regulations, as needed, for activity centers as designated on the *Regional Plan*.	City & County	0-3
Policy C3.2—Regulate Resort Commercial Use Siting Large resort commercial uses may only be sited in appropriate locations that can be adequately served by water, sewer, and other public facilities and services, and shall be discouraged from locating in remote areas, where adequate public facilities and services cannot be provided, or in areas that have a potential negative impact on existing developed areas.	*Strategy C3.2(a)—Restrictions on Resort Commercial Facilities Siting* Develop regulations that restrict resort commercial uses in rural areas unless it can be demonstrated that they can meet public facility and location criteria and that potential negative impacts on existing neighborhoods are mitigated.	County	0-1

INDUSTRY AND EMPLOYMENT

Economic vitality is the foundation for continued community progress and livability. Important also, is attracting and retaining quality employers, and clean environmentally-friendly industries.

The U.S. Census and Bureau of Economic Analysis records show that employment (the average number of employed residents) increased from 16,227 in 1980 to 27,339 in 1995 within the City of Flagstaff, approximately a 3.8% annual rate of growth. During the same period, the unemployment rate has dropped from 8.4% to 6.2%. Major employment sectors are government, retail trade, and services. The service and retail trade sectors have shown the greatest increase in employment since 1990. Preliminary data suggest that employment will reach about 32,900 in 2000, continuing the roughly 4% per year increase.

The increase in employment has been shadowed by increases in earned wages, although the increase in wages is less than statewide increases in earned wages. Wages rose 18% in the Flagstaff area from 1990 to 1996, but lost ground with respect to Arizona wages, which rose 22%. Flagstaff area average earned wages per job were $21,236 in 1996. However, while earnings fell further behind, the data show that total personal income received by area residents has been growing more quickly than statewide total personal income since 1981. Personal income at $16,733 is still well below the statewide average (83% of the statewide average in 1995). Employment and total personal income (3.8% and 8.0%, respectively) have both grown more rapidly than the county's population, which increased at a rate of about 2.57% per year since 1980.

The Flagstaff area economy is dominated by three sectors (including services, retail trade, and government) that make up over 70% of the area's employment. The retail trade and services sectors have shown the greatest increase during the last 10 years, growing over 5,000 jobs. The lower wages in this sector may be responsible for the more recent declines in local area earned wages when compared to statewide wages. These three sectors also exceed the national average with respect to employment percentages, which reflects the significance of Northern Arizona University and tourism to the local economy.

GOAL IE1

The community will enjoy a healthy, thriving economy with opportunities for quality and diversified employment of various economic levels for its residents with livable wages, and environmentally responsible industries that make a positive contribution to the community and the economy.

Rationale

The Flagstaff area economy continues to be dominated by three sectors including services, retail trade, and government, which make up over 70% of the area's employment. The retail trade and service sectors have shown the greatest increase during the last 10 years, growing by over 5,000 jobs. However, the retail trade and service sectors tend to be lower paying than jobs in basic employment or high-tech industries. While the services, retail trade, and government sectors will continue to play a crucial role in the economy, the *Regional Plan* encourages diversifying into other sectors that provide clean industry and greater quality employment opportunities for all residents.

Policies and Strategies

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy IE1.1—Expand Basic Employment Within the Flagstaff Area The *Regional Plan* supports the expansion of basic employment within the Flagstaff area that meets various income levels by providing locations for new companies and allowing companies on existing sites, where appropriate, to expand or diversify their operations.	*Strategy IE1.1(a)—Supply an Adequate Amount of Land for Basic Employment* Zone or rezone adequate amounts of land for industrial and manufacturing uses to provide ample supply of sites for basic employment firms.	City	0-3
	Strategy IE1.1(b)—Institute Development Standards for Development in the Business Park Zoning District To allow for the type of permitted and preferred industrial development and to assure competitive marketing of Airpark land with other communities, develop criteria and standards for adoption and use by the City in the Pulliam Airpark area.	City	0-1

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy IE1.2—Protect Existing Industrial Land and Existing Employment Areas With the majority of new jobs being created by existing business and industry, existing industrial and employment areas shall be protected against the encroachment of other land uses which may be detrimental to their continued success, the potential for future industrial development, or future necessary industrial relocations.	*Strategy IE1.2(a)—Revise Zoning to Protect Existing, Planned Industrial and Employment Centers and Sites Identified on Regional Plan* Protect industrial and employment sites from intrusion of non-industrial uses (e.g., eliminate incompatible uses, restrict pyramid zoning that allows residential and commercial uses in industrial areas, other than as part of a mixed-use, master-planned development). Revise zoning regulations to ensure that industries seeking to expand are not unduly restrained by non-conforming use and other zoning restrictions.	City	0-3
Policy IE1.3—Support Environmentally Appropriate Industry The City and County shall promote the preservation and enhancement of its significant features of the natural environment, high quality educational and scientific resources, and low levels of environmental pollution by focusing on attracting those companies that make a good fit with the community.	*Strategy IE1.3(a)—Revise Industrial Performance Standards* Adopt more quantitative industrial performance standards (e.g., noise, vibrations, and lighting) to protect surrounding businesses and residential areas from adverse impacts. *Strategy IE1.3(b)—Support Environmentally Appropriate Industry* Recruit new employment industries, such as bio-industry, software, alternative power and renewable energy, whose processes require minimal water consumption and generate minimal ambient air or water degradation.	City City & County, Greater Flagstaff Economic Council	0-3 Through-out life of *Regional Plan*
Policy IE1.4—Designate Appropriate Location for Employment Uses Employment uses requiring the movement of goods and materials shall locate in areas convenient to rail, air, or highway facilities within or near employment districts to minimize the necessity for intra-city movement of goods.	*Strategy IE1.4(a)—Consider Appropriate Locational Sites* Target and rezone new locations with ready access to a variety of transportation facilities (highways, rail, air, etc.).	City & County	0-3

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy IE1.5—Designate Appropriate Employment Centers Major employers shall locate within designated mixed-use employment centers as areas for basic employment uses including light manufacturing, offices, corporate headquarters, and other uses of similar character that will also include a variety of complementary uses, such as business services, lodging for business travelers, convenience retail, child care, restaurants, and multi-family housing.	*Strategy IE1.5(a)—Develop Criteria and Incentives for Employment Centers* Amend zoning regulations and provide incentives to support commercial businesses and other complementary uses (e.g., multi-family) in business parks. Developments shall form a coherent, attractive business park setting in each center. The organizing elements of a center shall either be a clear, unifying network of streets and sidewalks, or a system of campus-like outdoor spaces with connecting walkway spines.	City & County	0-1
	Strategy IE1.5(b)—Develop Resources for Start-up Businesses Develop additional resources to encourage and support new start-up businesses in the region.	City & County, Greater Flagstaff Economic Council	0-3
Policy IE1.6—Provide for Home Occupations Continue to promote home occupations and cottage industries to provide expanded employment opportunities and reduction in traffic congestion.	*Strategy IE1.6(a)—Revise Zoning Regulations* Continue to allow home occupations and cottage industries under certain conditions while acknowledging zoning code regulation revisions may be needed.	City & County	0-3

HOUSING AND NEIGHBORHOODS

A high priority is creating more housing and neighborhood diversity for a wide range of households. Also important is re-balancing neighborhoods without destroying their identity, keeping intact the historic, cultural, and social bonds while improving the economic and social ecology of the area. This type of approach can help create more pedestrian-friendly neighborhoods, increase transit patronage, and create the compact communities required to preserve open space.

New home and multi-family construction increased during the period 1990–1995 by an average annual rate of one percent. However, 1992 and 1994 actually saw slight decreases in construction from the previous years due to reductions in the construction of multi-family units. Single-family home construction remained generally steady through the period. When including manufactured homes, more single-family homes were constructed or placed in the unincorporated area than in the City of Flagstaff during the period.

Addressing the needs of low- and moderate-income persons in Flagstaff is further and more specifically described in the numerous programs contained in the current and future City of Flagstaff Consolidated Plans. It describes the housing, economic, social and human development needs of low- and moderate-income persons and prescribes a five-year strategy to address them. The strategy includes programs for affordable housing, public infrastructure, public services, economic development, and neighborhood revitalization.

GOAL HN1

The supply of affordable home ownership, rental, and special needs housing units affordable to low- and moderate-income households will be increased.

Rationale

The greatest deficiency in the Flagstaff housing market is the absence of housing that is affordable to low- and moderate-income households. The median price of a newly constructed house in Flagstaff is $189,000, while the median sales price for existing homes is $177,500. Flagstaff land costs, topography, and geology severely hinder the construction of homes within the range in which 50% of potential homebuyers could afford. Current market rents are too high for the estimated 3,000 households that are living in substandard conditions. While some progress has been made in the construction of affordable rental housing, little progress has been made in the production of affordable owner-occupied housing. In general, affordable housing shall be located in the city, where adequate public facilities and services are available.

Policies and Strategies

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy HN1.1—Evaluate and Adjust Housing Policies and Strategies The City and County shall maintain a current assessment of housing and economic conditions and adjust their housing planning, policy, and strategy approaches as necessary to ensure community services and resources are delivered appropriately and efficiently to meet community needs and vision.	*Strategy HN1.1(a)—Increase Funding For Affordable Housing* Increase funding for affordable housing through an aggressive grant/loan/bond writing campaign to fund the priority programs defined in the Flagstaff Consolidated Plan.	City, County, state and federal agencies, private financial institutions, for-profit and non-profit housing providers	Through-out life of *Regional Plan*
	Strategy HN1.1(b)—Ensure Affordable Housing Supply Consider methods to ensure an affordable housing supply, including amending zoning district regulations; establishing incentive programs, density bonuses, and housing set-asides where legal; supporting non-profit developers in addressing special population needs; and providing support through non-profit agencies for the marketing and sale of affordable units.	City, County, for-profit and non-profit housing providers	0-3
	Strategy HN1.1(c)—Special Needs Facilities Support the development of facilities and services for homeless persons, persons with AIDS, victims of domestic violence, the elderly, handicapped, mentally ill, and disabled.	City, County, non-profit housing providers, state agencies	0-5

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy HN1.2—Support the Creation of Public/Private Partnerships for Housing The City and County shall cultivate partnerships with other public and private for-profit and private non-profit entities for the implementation of programs designed to create, preserve and sustain affordable housing. These partnerships may include employer-based programs. Federal, state, and local resources should be used in a manner that leverages private investment and recapture of subsidies for revolving loan funds.	*Strategy HN1.2(a)—Public/Private Homebuyer Programs* Continue to partner with non-profit and government entities to implement down payment and closing costs homebuyer assistance programs for low- and middle-income households which encourage the construction of affordable owner-occupied housing; provide support for the marketing and sale of set-aside units; provide assistance with the purchase of existing affordable units, and make available primary mortgage loan resources.	City, County, non-profits, private developers	Through-out life of *Regional Plan*
	Strategy HN1.2(b)—Mortgage Revenue Bond Issuance Initiate the issuance of a mortgage revenue bond to provide mortgage financing for the purchase of homes affordable to low- and middle-income households.	City	0-3
	Strategy HN1.2(c)—Low-income Housing Tax Credits Continue to seek partnerships with Low-Income Housing Tax Credit developers for the construction of affordable rental developments.	City, private developers	0-3

GOAL HN2

New neighborhoods will be built and support will be given to existing neighborhoods that integrate a variety of housing types and densities with amenities, services, and retail to ensure opportunities for a variety of household income levels.

Rationale

The Flagstaff 2020 Visioning process confirmed that living in the natural beauty of the mountain environment is a commonly shared value in the region. To preserve the natural beauty of the area, Vision 2020 prescribes specific development patterns that preserve natural resources and open space through concentrated and mixed-use development. Further, the development of vacant infill property and the redevelopment of underutilized property present the opportunity to accommodate growth without sprawl. The *Regional Plan* encourages a variety of housing types and densities, including mixed-use developments, to be made available throughout the region for all income levels.

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy HN2.1—Promote Development of Mixed-Use Neighborhoods In appropriate areas, both new and existing neighborhoods should have a mix of land uses and different housing types. The arrangement of land uses within neighborhoods shall allow residents to walk and bicycle to parks, schools, work, shopping, places of worship, transit stops, and other nearby neighborhoods. Neighborhoods should include a pedestrian-oriented neighborhood center—school, park, plaza, commercial area or other neighborhood facility—that gives each neighborhood a unique identity and a place for recreation or public gatherings. Additionally, existing older neighborhoods, such as Southside, Sunnyside, and parts of downtown, may be suitable for limited and sensitively designed mixed-use development. Redevelopment of existing neighborhoods shall be sensitive to existing development to preserve the neighborhood character.	*Strategy HN2.1(a)—Support Mixed-Use Development through Neighborhood Plans and Zoning Revisions* Support mixed-use development through neighborhood plans and zoning revisions. Amend and adopt zoning guidelines and standards to support mixed-use developments by requiring a variety of housing types and densities in development areas. Further, zone district regulations should be amended to encourage the development of small-scale, neighborhood commercial centers that serve local residents. *Strategy HN2.1(b)—Implement Regulatory, Programmable, and Procedural Affordable Housing Incentives* Implement regulatory, programmable, and procedural incentives to involve the private developer in creating a variety of residential housing types, including entry-level affordable housing.	City & County City	0-3 Through-out life of *Regional Plan*

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy HN2.2—Establish Interconnected Neighborhood Street and Sidewalk Patterns Neighborhood streets and sidewalks and/or walkways in both new and existing areas should form an interconnected network, including automobile, bicycle, and pedestrian routes within a neighborhood and between neighborhoods, in order to connect neighborhoods together and with other parts of the region. Neighborhoods should have frequently connected networks of walkways and bike paths, including connections to the Flagstaff Urban Trail System (FUTS), where practicable and feasible. In particular, direct walkway and bikeway routes to schools, parks, and other community facilities should be provided. Equestrian facilities should be accommodated where appropriate.	*Strategy HN2.2(a)—Develop Neighborhood Connectivity Standards* Adopt standards that require street and pedestrian connectivity between new residential and commercial developments, civic uses, and parks to make neighborhoods more accessible, walkable, and pedestrian-friendly. Adopt subdivision and development standards requiring provision of sidewalks, walkways, trails, and appropriate transit and equestrian facilities.	City & County	0-1
Policy HN2.3—Encourage Accessory Dwelling Units The *Regional Plan* recognizes accessory housing units as a viable form of additional, and possibly more affordable, housing, and shall develop special procedures, criteria, and standards governing their existence that are designed to facilitate their development while protecting existing neighborhood character.	*Strategy HN2.3(a)—Develop Special Procedures, Criteria, and Standards for Accessory Dwelling Units* Amend zoning regulations to include special procedures to allow accessory housing units while protecting existing neighborhoods. Accessory dwelling units should include additional dwellings on existing lots, second-story units over garages and other outbuildings, and dwellings located above commercial buildings and offices. Standards to be considered shall include compatibility of location, design standards, limits on numbers of occupants, restrictions on size, parking needs, and other considerations as appropriate.	City & County	0-3

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy HN2.4—Restrict Development of Gated Communities To keep all parts of the community accessible by all citizens, discourage gated communities unless connectivity and public access are provided and development is in conformance with other appropriate policies contained in the *Regional Plan.*	*Strategy HN2.4(a)—Adopt Zoning and Subdivision Limits on Gated Communities* Adopt zoning and subdivision limits on gated communities. Consider limits on walled communities also.	City & County	0-3
Policy HN2.5—Preserve and Enhance Existing Neighborhoods Within Districts The character of stable residential neighborhoods shall be preserved through neighborhood and district planning, assistance to neighborhood organizations, and supportive regulatory techniques. The City shall attempt to retain existing affordable housing stock through conservation efforts of older residential neighborhoods, while allowing infill development and accessory dwellings in a sensitively designed manner.	*Strategy HN2.5(a)—Dedicate Resources to Conserve and Revitalize Older Neighborhoods* The City and County shall acquire, demolish and replace substandard structures, establish Property Maintenance Ordinances, and invest their grant funding and planning resources to conserve and revitalize their older neighborhoods while taking steps to preserve natural, historical and cultural assets which provide neighborhood identity.	City, County, Federal and State agencies	Through-out life of *Regional Plan*
	Strategy HN2.5(b)—Support Housing Rehabilitation Programs Continue to implement and support neighborhood owner-occupied Housing Rehabilitation Programs in the city, as well as sites in the county.	City & County	Through-out life of *Regional Plan*
	Strategy HN2.5(c)—Preserve Historically Significant Housing Continue to preserve Flagstaff's historic resources, including historically significant housing, through the Historic Preservation Commission and the City's neighborhood revitalization efforts.	City	Through-out life of *Regional Plan*
	Strategy HN2.5(d)—Promote Infill Housing in Targeted Areas Continue to partner with local non-profit housing and for-profit providers to acquire land and construct owner-occupied infill housing in Sunnyside, Southside and Old Town.	City, non-profit housing providers	Through-out life of *Regional Plan*

Policy	Strategy	Respon-sible Party	Time Frame/ Years
	Strategy HN2.5(e)—Upgrade Infrastructure in Existing Neighborhoods Continue to invest utility revenues to replace inadequate drainage, water and sewer infrastructure in older neighborhoods.	City	Through-out life of *Regional Plan*

GOAL HN3

Development patterns designed to maintain the open character of rural areas, protect open lands, and to protect and maintain sensitive environmental areas will be promoted.

Policy	Strategy	Respon-sible Party	Time Frame/ Years
Policy HN3.1—Encourage Cluster Development The City and County shall continue to allow cluster development in appropriate locations, as an optional development pattern.	*Strategy HN3.1(a)—Develop Criteria for Cluster Development* The County shall develop criteria for determining when cluster development is appropriate for locations in county Rural Growth Boundaries. In developing criteria, consideration shall be given to the following: 1. The proposed development should be consistent with the goals and policies of this *Regional Plan*, the County's Comprehensive Plan, and local area plans. 2. The proposed development should include mechanisms for the maintenance and administration of any open space that is common, either public or private. 3. Surrounding infrastructure and public services must be adequate to meet the needs of the proposed development.	County	0-1
	Strategy HN3.1(b)—Consider Density Bonuses for Cluster Subdivisions Develop criteria that allow for the granting of density bonuses for cluster subdivisions under special conditions or circumstances. These may include demonstrating that a cluster subdivision would create open space that would protect or preserve a critical natural feature, such as a riparian area, wildlife habitat or corridor, viewshed, or ridgeline, or another significant feature identified in the *Greater Flagstaff Area Open Spaces and Greenways Plan*.	County	0-1

COST OF DEVELOPMENT

One of the outcomes of the *Flagstaff 2020* regional visioning process was the identification of the need for development impact fees. State Growing Smarter legislation also calls for a:

> "cost of development element that identifies policies and strategies that the municipality will use to require development to pay its fair share toward the cost of additional public service needs generated by new development, with appropriate exceptions when in the public interest. This element shall include:
>
> - A component that identifies various mechanisms allowed by law that can be used to fund and finance additional public services necessary to serve the development, including bonding, special taxing districts, development fees, in lieu fees, facility construction, dedication and service privatization.
> - A component that identifies policies to ensure that any mechanisms that are adopted by the municipality under this element result in a beneficial use to the development, bear a reasonable relationship to the burden imposed on the municipality to provide additional necessary public services to the development and otherwise are imposed according to law."

GOAL CD1

Having accomplished almost ten years of successful implementation of the Land Development Code, the City seeks to establish a development fee schedule which will enhance the City's ability to provide adequate off-site improvements and facilities for new development and implement the Growing Smarter provision for cost of development.

Rationale

Development of needed off-site improvements such as streets, traffic controls, utilities, parks, etc., has often lagged behind on-site development because of the City's inability to assess appropriate fees related to, and attributable to, new development for these needed facilities and services.

Policies and strategies related to cost of development are included in the Community Facilities and Services Element.

The City of Flagstaff is currently undertaking consideration of development of a fee schedule for all new development in the city. Any development fee process should result in a new, publicly accepted ordinance and schedule that will be applicable to all new development proposals. Initiation of the Development Fee Program will be a cooperative effort by the City of Flagstaff, developers, and citizens.

Any Development Fee Program should accurately assess the development regulations and organizational structures of all City divisions and departments involved with the development process, and recommend adjustments necessary to implement an appropriate development fee schedule that may apply to all or some of the following:

- A list of long-range capital needs in Flagstaff (both funded and unfunded), based on the system plans contained in the *Regional Plan*. The list should be in conformance with various public documents pertaining to infrastructure types, as well as the goals of the

Regional Plan as they relate to the city. The list should include, at a minimum, the following types of facilities:

- Streets, bridges and thoroughfares, including pedestrian facilities
- Open spaces and trails
- Traffic controls, i.e., signals, synchronization
- Transit facilities
- Police and public safety facilities
- Flood control and stormwater improvements
- Park and recreation facilities
- Community services and buildings (library, shops, etc.)
- Street lighting
- Fire protection facilities
- Water production, treatment and distribution improvements
- Sewer improvements
- Solid waste disposal facilities
- City vehicles and other equipment

Any Development Fee Program will provide a calculation of legally defensible development fees for various infrastructure and other facilities by land use type, i.e., single-family residential, multi-family residential, retail types. If legally defensible and feasible, it should include a method of reducing some or all development fees to further the following community development objectives:

- Infill and redevelopment in areas of the city targeted for revitalization, as identified by the *Regional Plan*, as an incentive to encourage that infill and redevelopment.
- Quality design elements as outlined in the *City of Flagstaff Design Guidelines*. Supplementing existing development regulations, these Guidelines are intended to insure a higher quality of physical design within the community.
- Affordable housing strategies outlined in the *Flagstaff Consolidated Plan*.
- Transportation enhancements that will help ensure local connectivity, neighborhood integration, and viable alternatives to the automobile as outlined in the *Regional Plan*.

Transportation Element

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Photo by Gregory Richards


Photo by Edward Allen

Introduction

The Transportation Plan is designed to achieve a balanced reliance on multiple transportation modes: single-occupant vehicles, multi-occupant vehicles, public transit, bicycling, and walking. This balance will enable the Flagstaff metropolitan area to attain high levels of mobility and accessibility while preserving community character and quality of life. The Transportation Plan includes a Roadway System Plan, a Transit System Plan, and Non-Motorized Systems Plans for trails and bikeways.

The Transportation Element of the *Regional Plan* can be summed up in five words: *safety, balance, connectivity, efficiency* and *diversity*. "Safety" is the first concern. It is reflected in the goals and policies related to traffic calming. "Balance" is the mix of transportation modes, choices, and road facilities we want to make available. Transit, bicycles, and pedestrians are prominently featured in the policy framework. "Connectivity" creates resilience, choices, and opportunities across and beyond the region not afforded by the existing system. The *Regional Plan* recognizes deficiencies in the road system, and consequently the bike and pedestrian systems, and the plan maps clearly show where we will make corrections. "Efficiency" is the quality of performance achieved at each intersection and across the system. Signal synchronization and intersection improvements will help to achieve this end. "Diversity" recognizes the full array of transportation needs for our economy, our visitors, and residents. It is a quality of life issue as much as anything. Truck routes, the railroad, and the references to transportation in most of the plan elements support the diversity of the system.

The Transportation element includes several systems maps: a Roadway System Plan (Map 8), a Transit System Plan (Map 9), and Non-Motorized System Plans for trails and bikeways: Bikeways Plan (Map 12) and FUTS (Map 13). It also includes two administrative maps: Truck Route Plan (Map 11) and Roadway Categorization Plan (Map 10). These maps describe the locations of existing and future facility locations needed to support the land use and economy-related plan elements.

The Truck Routes map positively identifies where trucks are to operate for cross and through-town trips. The *Regional Plan* policies direct the City and County to develop regulations for specifying how trucks may make deliveries (i.e., make use of the shortest route in and out of a residential area, during certain hours in certain zones). The map will guide investment and design decisions so that trucks may operate in the Flagstaff region safely and efficiently.

The Roadway Categorization Plan (RCP) map is a further delineation of the Roadway System Plan. The System Plan defines major roadways. The RCP distinguishes major arterials from minor arterials and goes further to denote minor collectors, commercial local streets and a special category of street called a connector. Four roadway categories in the RCP system are not mapped for purposes of clarity: Residential local streets, Narrow residential local streets, Connector streets, and Alleys. Connectors are more often local streets that need to be built to allow low-speed, non-through trip connections between neighborhoods. The RCP will be the basis for guiding design decisions, traffic calming implementation, and landscaping, among other things.

In establishing the criteria for category designation, special attention was given to the role different types of roads play in defining the region's role in the state, the district's role in the region, and the neighborhood's role in the district. Similarly, transportation is interwoven throughout all of the *Regional Plan* elements. This will help in remembering that transportation is a means to an end—a higher quality of life, and not an end in itself.

GOAL T1

A safe, convenient, user-friendly transportation system will be developed throughout the region, addressing both short- and long-term needs, and emphasizing alternative transportation modes while reducing dependency on the automobile.

Rationale

Similar to other cities and regions throughout the United States, the automobile is the dominant mode of transportation in the Flagstaff region. However, the continued reliance on the automobile to meet the growing transportation needs of a growing region is likely to degrade air quality levels; increase unacceptable traffic congestion and driving times; negatively impact neighborhoods; require widening of roads and other expensive infrastructure improvements; and consume land that could be used to provide jobs, housing, or open space. The quality of life for the region's residents would deteriorate if they had to rely primarily on the automobile to travel locally or regionally. Therefore, the *Regional Plan* encourages an efficient and balanced transportation system that ensures local and regional connectivity and neighborhood integration, while at the same time offers viable alternatives to the automobile, thereby minimizing auto dependency and unnecessary driving trips.

Implementation Matrix Key

In the "Time Frame" column, the first number indicates when the action should be initiated and the second number indicates when it should be completed relative to *Regional Plan* ratification. For example, "0–1" means the action should be initiated as soon as possible and be completed no later than within one year of *Regional Plan* ratification. These time frames are set with the understanding that they are meant as best estimates and may have to be adjusted given the numerous parties involved in implementation of any given strategy.

The following abbreviations are used throughout the matrix:

ADOT	Arizona Department of Transportation	**PRA**	Planning Reserve Area
CIP	Capital improvement Program	**RGB**	Rural Growth Boundary
FHWA	Federal Highway Administration	**UGB**	Urban Growth Boundary
FMPO	Flagstaff Metropolitan Planning Organization	**USFS**	United States Forest Service

Policies and Strategies

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy T1.1—Develop a Balanced Transportation System The local transportation system shall strike a balance so that each mode of travel (single-occupant vehicle, multi-occupant auto, pedestrian, bicycle and public transit) is effectively utilized to meet local mobility choices and needs.	*Strategy T1.1(a)—Develop Multi-modal Street Design Criteria* Design all arterial and collector streets (new roads and major reconstruction projects) to effectively provide mobility and accessibility for pedestrians, bicyclists, and public transit vehicles as well as for private motor vehicles.	City, County, FMPO	0-2

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
	Strategy T1.1(b)—Establish Multi-modal Corridors The City and County shall identify multi-modal corridors throughout the region that will receive priority for multi-modal investments appropriate to each corridor. These corridors should create a gridded network throughout the community.	City, County, FMPO	0-5
	Strategy T1.1(c)—Coordinate With ADOT and FHWA Coordinate policies with ADOT and FHWA to assure compatibility with *Regional Plan* objectives, including design, viewshed protection, streetscape enhancements, and noise attenuation.	City, County, ADOT, FHWA	Through-out life of *Regional Plan*
Policy T1.2—Create an Efficient Transportation System The City and County shall work to ensure connectivity and continuity in local roads and streets between adjacent neighborhoods, and between neighborhoods and nearby commercial areas and schools in order to minimize auto dependency, minimize unnecessary driving, especially for short trips, and achieve a better distribution of traffic across the roadway network, avoiding unnecessary congestion on collector and arterial routes.	*Strategy T1.2(a)—Develop a Traffic Signal Capital Program and Management System* The City shall work with ADOT to develop and implement a traffic signal improvement and traffic signal management system in the near- to mid-term.	City, County, FMPO, ADOT	2-3
	Strategy T1.2(b)—Develop Transportation Facility Design and Updated Roadway Cross Section Guidelines The City and County should develop the guidelines within two years following adoption of the *Regional Plan*. The guidelines shall cover streets, sidewalks, crosswalks, bicycle facilities, and transit facilities. Roadway design guidelines shall be tied to Roadway Planning Categorization.	City, County, FMPO	2-3
	Strategy T1.2(c)—Develop Connectivity Guidelines The City and County shall adopt street system standards for large commercial and residential development projects providing for connectivity with streets serving adjacent land uses and providing for continuity in collector and local streets. These standards shall be implemented through the development review process to ensure development of an efficient, connected roads and streets network. The standards may include such requirements as maximum block length, minimum number of street connections per mile, or similar standards. The standards shall address streets, pedestrian facilities and bicycle facilities. The standards may allow exceptions for development projects adjacent to existing residential areas to accommodate concerns about cut-through-traffic and other traffic impacts on established neighborhoods.	City & County	0-1

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy T1.3—Establish Roadway Improvements Categories The *Regional Plan* shall establish the relative priorities of categories of roadway improvements for local (City and County) investment, and set local priorities for State of Arizona investments in arterial roadways through the continuing actions of the Flagstaff Metropolitan Planning Organization. The priorities shall conform to the following direction: 1. The highest priority shall be projects that solve or improve demonstrated or anticipated safety problems, provided however, motor vehicle safety shall not be improved at the expense of reduced safety of movement by pedestrians, bicyclists, public transit or other legitimate means of travel. 2. The next highest priority shall be placed on "transportation systems management" investments that improve the flow of traffic through existing roadway facilities. These include improved signalization, access management, intersection reconstruction, intersection separations, and similar types of projects. 3. The City and County shall identify and work to resolve missing links and key connections in the urban street grid, especially for north-south movements near the city core. 4. The City and County shall take a lead role in identifying the need for, and assuring the provision of, key radial connectors and circumferential routes, including those which will ultimately be privately funded in connection with new development. While such projects shall not be a high priority for local public funding, the City and County may provide "up-front" funding for such projects to be repaid later by developers.	*Strategy T1.3(a)—Develop and Adopt a Transportation Improvement Program* The City and the County, working with the Flagstaff Metropolitan Planning Organization, shall establish a Transportation Improvement Program (TIP). The TIP shall be adopted and developed as a part of the transportation plan. The TIP identifies the transportation projects and programs (all modes) required to support the plan and preferred land use pattern. Project limits, project and program descriptions, and estimated costs shall be listed and mapped.	City, County, FMPO	Annually

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
5. Other criteria being equal, some additional priority may be placed on certain roadway links and connections which would enable better response times for emergency services or which would provide needed redundancy in routes for emergency access or circulation.			
Policy T1.4—Reduce Negative Traffic Impacts in Residential Neighborhoods Traffic calming shall be incorporated in neighborhoods to mitigate negative impacts, and streets serving residential areas shall be designed in a manner that does not encourage through-traffic in neighborhoods.	*Strategy T1.4(a)—Develop a Traffic Mitigation Program* The City and County shall develop a traffic mitigation program to be prepared by the City and County within three years following adoption of the *Regional Plan*. The Traffic Mitigation Program (TMP) shall include a catalogue of approved tools (including design templates) for mitigating traffic on neighborhood streets, including traffic calming and speed reduction measures. The TMP shall also provide a process that evaluates the indirect consequences of proposed traffic calming measures, and prioritizes traffic mitigation projects.	City, County, FMPO	0-3
Policy T1.5—Coordinate Regional Transportation Funding The City and County shall coordinate on development of a regional system of transportation funding that ensures that the costs of serving new development are not borne disproportionately by existing residents and property owners. This system shall also determine an equitable allocation of the costs of providing or improving major transportation facilities (including arterial and collector roads, regional trails and public transit systems) and shall allocate those costs accordingly through local taxing and fee systems.	*Strategy T1.5(a)—Develop and Adopt Transportation Funding Mechanisms* The recommended funding measures required to support the Transportation Improvement Program (including both local and federal/state sources) shall be part of the transportation plan. Specific implementation measures involving approvals by the City Council, County Board of Supervisors and ultimately the public shall be pursued aggressively following adoption of the *Regional Plan*.	City, County, FMPO	0-3
	Strategy T1.5(b)—Pursue Mass Transit Funding The City and county shall pursue additional funding sources for public transit and associated infrastructure.	City, County, FMPO	0-5
	Strategy T1.5(c)—Develop and Adopt Measures Requiring On-Site Improvements The City and County shall establish the responsibility of developers for on-site provisions for pedestrian, bicycle, public transit, and motor vehicle infrastructure.	City, County, FMPO	0-2

Policy	Strategy	Respon-sible Party	Time Frame/ Years
Policy T1.6—Establish a Roadway Planning Categorization and Access Management System The City and County shall establish a roadway planning categorization and access management system for the purposes of managing access and determining design standards. This functional classification shall serve as the basis for an access management system. The classifications shall include at least the following categories: ▪ Freeway ▪ Major Arterial ▪ Minor Arterial ▪ Major Collector ▪ Minor Collector ▪ Connector ▪ Local Commercial ▪ Local Residential ▪ Local Narrow Residential ▪ Alley	*Strategy T1.6(a)—Adopt a Roadway Planning Categorization System and Map* Append the Transportation Plan to include a functional classification that identifies the role of each roadway in the regional grid and structural framework, and provides guidance to the County, the City and the state in making decisions about roadway design and cross section, multi-modal accommodation, access management, and traffic mitigation. *Strategy T1.6(b)—Develop an Access Management System* The City and County shall develop an access management system within one year following adoption of the *Regional Plan*. The City and County shall work with the Arizona Department of Transportation to develop a Flagstaff Metro Area Access Management System that can be used by the local governments and by the state to manage and regulate issuance of access permits to area roadways, based on planning categorization and the land use map.	City, County, FMPO City, County, ADOT	0-1 0-2
Policy T1.7—Recognize the Importance of Rail Freight and Passenger Service The City and the County shall recognize the importance of rail freight and passenger service to the economy of the region.	*Strategy T1.7(a)—Work With Railroad Service Providers* The County and City shall work cooperatively with the state and rail service providers to ensure continued and improving rail freight and passenger access to the Flagstaff region. This includes attention to rail-highway grade crossings issues, management of rail traffic impacts (e.g. noise, vibrations, air pollution, and traffic levels), and rail passenger interface.	City, County, FMPO	Through-out life of *Regional Plan*
Policy T1.8—Identify Truck Circulation Needs Append the *Regional Plan* to identify truck circulation routes and appropriate roadway design features for the accommodation of trucks.	*Strategy T1.8(a)—Develop a Truck Circulation Plan* The truck circulation plan shall ensure direct access for commercial trucks to all commercial and industrial areas as well as direct routes for cross-town movement. Truck routes identified in the plan shall respect existing residential neighborhoods and minimize adverse impacts (e.g., noise, vibrations, air pollution, and traffic levels) on those areas. The plan shall also ensure adequate inter-modal connections between truck and rail, truck and air freight, cross-country and local circulation.	City, County, FMPO	0-2

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy T1.9—Provide Inter-modal Connectivity The *Regional Plan* shall provide for an efficient interchange between modes for all types of trips. This shall address the interconnections between pedestrian, bicycle, transit, auto, rail, and air travel in order to maximize choices for mode of travel.	*Strategy T1.9(a)—Provide for All Ground Transportation Modes* The City and the County shall incorporate appropriate provisions for all ground transportation modes (pedestrian, bicycle, public transit, auto, and rail) in the design of each roadway improvement project so that new or improved roadway facilities meet the needs of each mode.	City & County	Through-out life of *Regional Plan*
	Strategy T1.9(b)—Identify and Implement Capital Projects Providing for Inter-modal Connections The City and County, working with the Arizona Department of Transportation and the Flagstaff Metropolitan Planning Organization, shall identify and implement capital projects designed to provide for inter-modal connections, including bus stops, transit centers, bicycle parking, sidewalks, and park and ride lots.	City, County, ADOT, FMPO	Through-out life of *Regional Plan*

GOAL T2

An enhanced public transit system will be promoted as an integral part of the region's overall transportation system.

Rationale

A major component of the region's multi-modal transportation network will be public transit. In order to be successful, the transit system needs to provide safe, efficient, and convenient service to important destinations in the region, thereby establishing a viable alternative to the automobile. Existing and future streets and developments will need to be designed to integrate transit and transit stops while minimizing conflicts between other transportation modes.

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy T2.1—Coordinate a Public Transit System The City and County shall work together to establish a Public Transit System that includes the following elements: 1. A consistent and reliable transportation system for the transit dependent elements of the population including elderly citizens, children, low-income families, disabled persons, and others unable or unwilling to drive. 2. A network of local routes connecting to all major employment and activity centers. 3. Activity center circulators, including a core area circulator with a high level of service linking downtown with the NAU campus and the medical/hospital complex, as well as other future circulators serving or connecting activity centers.	*Strategy T2.1(a)—Implement Short-Range Transit Plan* The Transportation Improvement Plan shall identify the transit projects and programs required for implementing the Short-Range Transit Plan.	City, County, FMPO	0-1
Policy T2.2—Develop a Cost-Effective and Efficient Public Transit System The City and County shall implement a public transit system in a manner that is cost-effective and efficient, and shall be designed to induce strong ridership response.	*Strategy T2.2(a)—Identify Revenue Sources* Stable revenue sources shall be identified that allow for capital planning and service development over time. *Strategy T2.2(b)—Develop Transit System* The transit system shall be developed incrementally, building on successes one step at a time, rather than attempting a large expansion of transit service in a short amount of time.	City, County, FMPO City, County, FMPO	0-5 Through-out life of *Regional Plan*
Policy T2.3—Integrate Transit System Design Public Transit shall be part of a multi-modal system that maximizes travel choices and ensures that the modes work well together and are mutually supportive.	*Strategy T2.3(a)—Integrate Multi-modal Street Design Criteria* Integrate public transit into the design of multi-modal travel corridors.	City, County, FMPO	0-2

GOAL T3

The region's development pattern will support a diverse range of transportation choices, including transit, walking and bicycling, as well as driving.

Rationale

In general, development in the region is oriented to a street system developed to serve the automobile. Auto-oriented development patterns lend to sprawling subdivisions and strip commercial developments. This land development pattern typically is not in a form or density that supports transit, walking, or bicycling, although exceptions can be found Downtown and in older neighborhoods. In order to support a multi-modal transportation system, the region's development patterns must change to support a balanced transportation system.

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy T3.1—Establish a Comprehensive Bicycling Network and Trails System This system shall connect all residential and commercial districts of the region, and provide direct access to schools, the NAU campus, public parks and the external recreational trail system on public lands. Advanced cyclists will largely be served by on-street facilities: bike lanes, wide shoulders, and in limited circumstances, wide curb lanes. Where no opportunities for such facilities exist, advanced cyclists may be accommodated on off-street multi-use paths. In many cases, parallel systems will be necessary to serve the utilitarian needs of basic riders. This may mean parallel paved bike paths or multi-use paths or nearby, parallel roads with lower volumes of traffic. The utilitarian trips of children cyclists–primarily trips to school–will be accommodated on signed bike routes, bike lanes on lower volume roads (i.e., minor collectors), and, where compatible with the Flagstaff Urban Trail System plan, off-street multi-use paths. Speed, volume, and connectivity factors, among others, will influence which types of facilities are necessary and when they must be improved to accommodate the various levels of cyclists.	*Strategy T3.1(a)—Implement Transportation Improvement Program* Develop pedestrian, bicycle, and trail master plans and incorporate related projects into the Transportation Improvement Program.	City, County, FMPO	Annually
	Strategy T3.1(b)—Coordinate Trail Programs with USFS Trail System The City and County shall coordinate the trail program with the Forest Service to support the policies in this *Regional Plan* and the recommendations in the *Greater Flagstaff Area Open Spaces and Greenways Plan*.	City, County, USFS	Through-out life of *Regional Plan*
	Strategy T3.1(c)—Identify Critical Bikeways Corridors Critical corridors will be identified for bikeways to establish a system that provides connectivity and mobility for bicyclists.	City, County, FMPO	0-2
	Strategy T3.1(d)—Develop Bikeways Facilities Develop bikeways facilities that serve the utilitarian needs of advanced, basic, and children bicyclists.	City, County, State & FMPO	0-2
	Strategy T3.1(e)—Develop Standards for Range of Cyclists Develop standards for the development of bikeways facilities for advanced, basic, and children cyclists.	City, County, State & FMPO	0-2

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy T3.2—Promote Accessible, Pedestrian-Friendly Community Design Future commercial and residential projects in the region shall be planned and designed to ensure that sites and land uses are readily accessible to all modes—pedestrians, bicycles, public transit, and autos. Site plans shall not be approved which give auto circulation and access primacy over other modes to the extent that auto travel is favored and other means of travel are rendered difficult, unpleasant or unsafe. Future development in the region shall be planned and designed to be pedestrian-friendly, with full accommodation for safe, comfortable and convenient walking on a continuous, well-connected system of sidewalks, walkways and safe street crosswalks, all of which shall meet minimum pedestrian facility design standards, including all Americans with Disabilities Act requirements.	*Strategy T3.2(a)—Adopt Accessible Community Design Standards* The City and County shall establish standards for commercial and residential projects to ensure they are planned and designed to be readily accessible to all modes—pedestrians, bicycles, public transit, and autos. The standards shall establish minimum planning and design requirements for sidewalks, walkways, and crosswalks.	City, County, FMPO	2-3
	Strategy T3.2(b)—Adopt Transit-Oriented Design Standards All districts of the region that are expected to be transit-served shall be subject to criteria and standards for transit-oriented design.	City, County, FMPO	0-3
	Strategy T3.2(c)—Establish Pedestrian Districts Pedestrian districts shall be established around regional activity centers (e.g., Downtown and NAU, schools, and parks). Higher design standards for pedestrian facilities within these districts shall be established. These standards may include additional signing, special crosswalk features, and traffic controls.	City & County	2-3

GOAL T4

The Region's transportation system will be developed and managed with attention both to supply-side (e.g., new roads) and to demand-side strategies.

Rationale

As the region grows over the next two decades, it will no longer be feasible to meet all of the growing demand for vehicular travel through increased supply of roadways (building new roads, adding new lanes, etc.). To attempt to do so would be environmentally damaging, would lower quality of life for existing residents, would threaten established neighborhoods and commercial areas, and would be prohibitively expensive. Instead, the City and County, working with the Arizona Department of Transportation, the Flagstaff Metropolitan Planning Organization, and the public transit agency, should begin to implement "demand-side" programs and projects which reduce the rate of growth in demand for roadway capacity by reducing unnecessary auto dependency, by encouraging balanced utilization of the multi-modal transportation system, and by ensuring that single-occupant vehicular travel is not encouraged or supported to the detriment of other modes. The two most important elements of this approach include implementation of an employer-based travel demand management program and the encouragement of mixed-use development patterns, which facilitate walking, bicycling and public transit ridership.

Policy	***Strategy***	***Respon-sible Party***	***Time Frame/ Years***
Policy T4.1—Promote Transportation Modes Other than Single Occupancy Vehicles The City and County shall develop a transportation demand program that promotes and facilitates the use of transportation modes other than single occupancy vehicles.	*Strategy T4.1(a)—Cooperate with Area Employers* The regional demand management program shall focus on a cooperative effort with area employers to reduce drive-alone commuting.	City & County	Through-out life of *Regional Plan*
	Strategy T4.1(b)—Implement the Regional Plan Land Use, Neighborhood, and Economic Development Policies The *Regional Plan* emphasizes mixed-use neighborhoods, activity centers, and employment centers supported by a network of pedestrian, bicycle, transit and automotive systems. The vertical and horizontal mix of uses places them close enough to permit walking and bicycling. The intensity of use at the centers facilitates transit service.	City & County	Through-out life of *Regional Plan*

Flagstaff Area Mobility Trends and Conditions

Projected population growth will bring with it increasing traffic to the Flagstaff area. Daily travel is expected to grow to 3.8 million daily vehicle miles of travel (VMT) by 2020, an 84% increase over 1997. However, population growth will account for only about 65% of the growth in VMT, with the rest attributable to other causes.

First, the average length of local trips has been increasing. This will continue as residential development occurs at locations removed from commercial areas. Second, daily vehicle trips will grow faster than population due to increases in daily travel by visitors and tourists. There will also be increases in through-traffic on the state highways, including truck traffic. Finally, Flagstaff will continue to serve as the primary economic center for a growing north-central Arizona region.

Over 90% of daily person trips in the Flagstaff area utilize private motor vehicles (PMVs). Less than 10% of mobility in the winter is accomplished via public transit, walking and bicycling. In the summer these modes account for only about 12% of daily trips. However, many larger cities in the mountainous west are working aggressively to reduce "auto dependency" and enable "alternative modes"—transit, walking, bicycling—to account for more than 25% of daily travel in some cases.

Table 4 below provides an estimate of the potential impact of modal shift programs in Flagstaff, including adequate investment in transit and pedestrian and bicycle infrastructure. This conservative estimate is based on cities of comparable demographics and climate and with levels of facilities and services that Flagstaff may achieve within the planning period. Supporting transportation demand management programs (e.g., employer transportation coordinator networks) would also be needed.

Table 4: Potential Modal Shifts—Flagstaff Region (by 2020)

Percent of Daily Person Trips	Summer/Fair		Winter/Inclement	
	Now	Potential	Now	Potential
Pedestrian	10%	15%	8%	14%
Bicycle	2%	6%	1%	2%
Public Transit	< 1%	3%	1%	4%
"Alternative Modes"	12%	24%	10%	20%

Flagstaff Area Mobility Issues and Opportunities

Achieving a Pedestrian-friendly Community

Citizens involved in the *Flagstaff 2020* visioning process placed considerable emphasis on a desire for the greater Flagstaff area to become a pedestrian-oriented place. This was one of the major themes emerging from the vision.

Yet, Flagstaff today does not represent an ideal pedestrian environment for these reasons:

1. Lack of sidewalks.
2. Poor street crossings.
3. Sidewalks are too narrow and too close to the road.
4. Public transit service is minimal.

At the same time, Flagstaff has important assets that could support the development of a walkable city. It is relatively small in scale, with many destinations located within what could be walking range. Finally, the local climate is relatively mild by North American standards with cool summers and cold but sunny winters.

The Flagstaff area would benefit from a concerted effort to become a walkable city. This would improve quality of life for all classes and ages of people. It would reduce congestion by avoiding the unnecessary use of roadway system capacity for short trips. Finally, it would support economic vitality and sustainability.

Capitalizing on the Bicycling Opportunity

A number of university towns in the western U.S. stress bicycling as a mode of travel. In these places, bicycling plays a significant role in daily mobility.

Informal interviews with bicyclists and bike shop employees reveal that the Flagstaff area is regarded as “good” for bicycling because the city is small in scale (many destinations fall within a five-mile radius for many residents) and because a network of “excellent” rural and forest trails is directly accessible from the city without need for recourse to a motor vehicle for transport to a trailhead. However, local bicyclists complain about traffic on the major thoroughfares and about the lack of bike lanes. They also note that local streets are icy much of the winter.

The City has pursued completion of a Flagstaff Urban Trails System (FUTS) since the mid-1980s. This is planned as a citywide network of non-motorized transportation corridors and linear recreation areas. FUTS trails are planned as connections to and between employment centers, activity centers, neighborhoods, schools and parks. The FUTS network includes “primary” and “secondary” segments. The bicycle system plan also includes on-street bike lanes and bike routes.

The Flagstaff area has the potential over the next twenty years to become an environment where bicycling adds significantly to personal mobility for residents, where traffic (at least in fair weather) is reduced by diversion of trips to bicycles and bicycles linked to transit, and where bicycling is a significant recreational attraction for residents and visitors alike. This will require completion of the Flagstaff Urban Trails System and an extensive network of on-street bike lanes connecting living, shopping, and employment locations.

Planning a Future Roads and Streets System

Vehicular Transportation System Overview

The Flagstaff area is served by a hierarchy of roadway types, including freeways and arterial, collector, and local streets that provide mobility and access for residents. Arterial streets include interstates and major and minor arterials. Freeways include Interstate 17, which provides access to Phoenix and connections to Interstate 10; and Interstate 40, which provides access to Albuquerque, Las Vegas, Los Angeles, and points along the eastern coast of the U.S.

Major arterials providing inter-regional access include U.S. Highways 89 and 180, and State Highway 89A. Other arterials important to the region include historic Route 66 through the downtown Flagstaff area and points east and west of the city.

The road network is the principal infrastructure for all modes of travel. Transit buses run on the streets mixed with other motor vehicles. Most sidewalks run along streets and are built as part of the street cross section. Bike lanes (often the most direct type of bikeway) are a part of streets, and many FUTS trails run parallel to or along streets.

Roadway System Issues

The process of planning for the future of the Flagstaff area roadway system revolves around three issues:

- How should development respond to increasing congestion?
- What kind of network does the Flagstaff area need?
- What specific roadway projects should be pursued?

The amount of the Flagstaff area roadway system that is "congested" will increase from only about 8 miles today to over 47 miles by 2020. Motorists using these roads will encounter long queues and significant delays at traffic signals, especially during peak travel times (7:30 to 8:30 AM and 4:00 to 6:00 PM). The most heavily traveled and congested parts of the network will be the state highways through the core area: U.S. 66 east and Milton Road. This will greatly increase the number of people using I-40 for local trips. The Flagstaff Metropolitan Planning Organization will need to wrestle with the issue of what to do about this congestion. Supply-side approaches—building bigger, wider streets and new roads—bring significant costs and impacts and may not be as beneficial in alleviating congestion as hoped.

In most cases the congestion occurring in a given roadway corridor is caused not by an inadequate number of through lanes, but by the intersections. Wherever signalized intersections exist, the capacity of the roadway to deliver cars to the intersection significantly exceeds the capacity of the intersection itself, since at least some portion of the "green time" must be allocated to the cross street movement.

This phenomenon has caused some cities to adopt a "narrow roads, wide nodes" approach where improvements to intersections (turn lanes, signal optimization) are favored over "add-lanes" projects.

What kind of network does the Flagstaff area need?

Recent research indicates that much of the benefit of a rectilinear grid—which Flagstaff's terrain prevents--can be achieved by simply requiring better connectivity between subdivisions and between residential areas and commercial areas. The requirement that collectors and connectors be planned and built either by developers or as public/private partnerships can achieve much of the benefits of a grid, while still allowing a curvilinear street layout that conforms well to the landscape. (A connector is a street that does not provide long distance continuity, but does connect adjacent developments.)

An evaluation of the Flagstaff area roadway network reveals two significant characteristics that are affecting traffic distribution and the resulting congestion. First, a well-connected continuous system of streets for north-south movements is lacking. Part of this problem results from discontinuities (missing links) in routes, but part of it relates to a simple lack of north-south collector or arterial routes. The strongest traffic growth is projected for areas south of I-40 with destinations as far north as Route 66. This further underscores these missing north-south links.

Second, the railroad presents a significant barrier to travel within the core of the city. Addressing these two issues and requiring better connectivity in the planning of developments would do much to provide the roadway capacity that the Flagstaff area will need by 2020.

What specific roadway projects should be pursued?

Based on the above discussion of roadway issues, a categorization of projects is presented in Table 5 along with an initial suggestion of overall priority.

Table 5: Types of Roadway Projects

Category	Project Type	Suggested Priority
Capacity Increase, System Expansion	New roadways	Low
	Add lanes to existing roadways	Low
Network Connectivity, Missing Links	New roadways to eliminate missing links	High
	Grade separations over railroad	High
	Interchanges connecting to new roadways built to eliminate missing links or new grade separations over railroad	High
System Efficiency	Intersection upgrades, new turn lanes	High
	Traffic signal coordination, timing, maintenance	High
	Access management systems	High
	Incident management systems	High
	ITS/Smart highways	Low
Safety	All types	High

Two final issues should be addressed in planning a future roadway system for the Flagstaff area: traffic signal coordination and maintenance and highway access management.

Signals will play a major role in determining the efficiency of the road and street network in moving traffic.

Another aspect of roadway system development is rigorous management of access from adjacent properties. This is most important for collector and arterial roadways and most problematic in commercial areas. The addition of numerous driveways in commercial corridors (and especially in areas that are developing into commercial corridors) has a major impact on the effective throughput capacity of the roadways.

Developing a Transit System

The region's public transit company is Pine Country Transit, which functions as a joint operation of the City of Flagstaff and Coconino County. Pine Country provides service Monday through Friday on three routes, with limited service on Saturday. Pine Country, who is changing its name to Mountain Line, operates a fleet of six transit vehicles on its normal fixed route system. In addition, Northern Arizona University operates a transit system for intra-campus movement of students, running on a fixed route from 7:30 AM to midnight.

As part of this project, a peer comparison of six other transit systems was prepared to help assess how Flagstaff is doing relative to what similar communities have done. The cities chosen are all western mountain towns with universities. The results are summarized in Table 6 below. As most local observers already realize, Flagstaff has yet to build a significant fixed route transit system.

Table 6: Peer Cities Transit Systems Comparison

	1998 Service Area Population	Number of Routes	Peak Local Headways (minutes)	Annual Bus Hours per Capita	Peak Fleet (buses)	Annual Operations Budget	Operations Budget per Capita	Annual Ridership per Capita
Boulder	98,312	27	6	2.22	71	$14.0 M	$143	67
Eugene	236,100	63	30	1.01	73	$14.5 M	$61	28
Flagstaff	63,801	3	60	0.15	3	$0.4 M	$6	2
Fort Collins	95,899	14	30	0.51	16	$2.9 M	$30	17
Logan	32,964	8	30	0.67	8	$0.8 M	$24	26
Missoula	60,930	12	30	0.53	17	$1.7 M	$28	10
Pocatello	53,392	9	60	0.34	8	$0.6 M	$11	4

However, what is less obvious, but clearly shown by the data, is the strong relationship between expenditures and ridership. (One anomaly is Logan, which operates its system as a fare-free service, thus generating a high ridership level per bus hour and per dollar of expense.) Flagstaff's low transit ridership is directly attributable to the low level of service.

Roadways System Plan

The Roadways System Plan illustrates existing and future significant street facilities and projects that establish the region's roadway circulation network. The projects identified improve access and mobility by improving access to alternate east-west routes, reducing the impact of rail traffic on circulation, and establishing new parallel or alternate routes in some areas.

Traffic congestion has been gradually increasing in the Flagstaff region over the past decade. It is particularly noticeable at the entrances to the city at the intersections of Ft. Valley Road and Columbus Avenue, Lake Mary Road and Beulah Boulevard, and U.S. Highway 89 and Country Club Drive. Congestion is also growing at major internal intersections like Route 66 and Enterprise, Route 66 and Butler, and Milton Road and West Route 66. Congestion is expected to increase in the Flagstaff area, and the transportation improvements depicted are intended to manage congestion, not eliminate it. Congestion management efforts include improving the region's network of arterial and collectors to provide better alternate routes, synchronizing traffic signals and controlling access to major roadways to maximize the efficiency of existing streets, and emphasizing alternate modes of travel to reduce demand for roadways.

The roadway classifications shown on the plan include freeways, arterials and major collectors. "Freeways" are the Interstates, I-40 and I-17. These are high-speed facilities with access permitted only at traffic interchanges. "Arterials" are high-capacity or relatively high-capacity roadways that connect the region to the state or enable travel across the region. "Major collectors" are those roadways that gather traffic in a district from the local residential and minor collector streets serving the neighborhoods and deliver it to the arterial system. The roadway classification guides decisions about the design of facilities, access to them, traffic calming, and landscaping.

Future planned or potential grade separations are also shown on the plan. These are the I-40 traffic interchange planned for Lone Tree Road and a grade separated intersection with Route 66 and Enterprise Drive that would be associated with a future railroad overpass project at Enterprise Drive.

The planned street improvement projects are numbered and categorized according to the agency or entity responsible for their construction. Arizona Department of Transportation (ADOT) projects correspond with proposed improvements in the ADOT I-40 Corridor Profile and I-17/US89 Corridor Profile. They will be programmed at ADOT's discretion. Locally funded projects will require new revenues that may include bonded indebtedness, sales taxes, and impact fees. Other road improvements may take place through special assessment districts in the county. It is anticipated that developer-funded projects will be built by the private sector as development takes place.

The map also identifies multi-modal corridors for the region. These corridors will be targeted for public and private investments in many modes of travel. They create a transportation grid that will enable people to travel around town without the need for automobiles. These corridors could include bike lanes or paths, improved intersection crossings for pedestrians and bicycles, and transit facilities, such as bus pullouts, shelters, and benches.

Roadway Planning Categories

Roadway categorization based on function provides guidance to the County, the City and the state in making decisions about roadway design, connections, adjacent land uses and other characteristics of highways and streets. Through this system, roadways within the region are categorized for the planning purposes of access management, design standards, multi-modal purposes, and traffic mitigation. The planning categories shall include at least the following:

- Freeway
- Minor Arterial
- Minor Collector
- Local Commercial
- Local Narrow Residential
- Major Arterial
- Major Collector
- Connector
- Local Residential
- Alley

Connector roads identified in Policy T1.6 will be designed in compliance with connectivity Policy T1.2 and traffic mitigation Policy T1.4. Connector roads are built or platted as temporary deadends or as required connections to adjoining tracts and also will be designed into future developments. The accompanying map (Map 10: Roadway Categorization Plan) assigns roads to a category with the exception of alleys, private roads, and roads under federal jurisdictions. Alleys will be identified after completion of a field study.

The "function" of a roadway takes into account the purpose of that roadway in the regional roads and streets grid. Roadways may:

- connect the Flagstaff/Coconino region to other regions, the state and the nation;
- connect local districts within the Flagstaff/Coconino region; or,
- provide internal circulation within local districts.

Function also considers the character of each roadway based on abutting land uses, and the role of each corridor in supporting a multi-modal system of regional mobility. The planning categorization drives decisions in at least three areas to be developed in separate documents:

1. roadway design/cross section–i.e., maximum lane configuration, roadway width, bicycle accommodation;

2. traffic mitigation–i.e., traffic calming, speed reduction; and
3. access management–i.e., allowable connections to other roads and abutting property.

Certain roadways also occupy corridors that are designated as Multi-modal Corridors. The Multi-modal Corridors are mapped as an overlay to the planning categorization map.

Roadway Planning Category Summary Descriptions

A full description will be developed based on the following table and Strategy T1.6(a)—Adopt a Roadway Planning Categorization System and Map.

Freeway:

Purpose and Character: Freeways serve as high-capacity, high-speed facilities for long trips across and through the region. They tie this region to the state and nation. Freeways require massive infrastructure and rights-of-way (up to 300 ft. or more) and are intended to carry heavy traffic volumes at high speeds with a relatively large percentage of trucks. They are designed with full access control. Adjacent land uses may include commercial areas, open space, public lands, industrial sites and certain institutional sites. Residential property will not abut Freeways unless separated by adequate buffering.

Major Arterial:

Purpose and Character: Major Arterials provide relatively high-capacity roadways for longer trips. They provide direct service to major regional centers of activity and often serve as boundaries between districts. Major Arterials provide roadway continuity and length for trans-regional, inter-regional and inter-state trips and connect the Flagstaff region to surrounding regions. Throughput capacity will be emphasized over local access. Adjacent land uses include commercial areas, open space, public lands, industrial sites and institutional sites. Residential property will not abut Major Arterials unless separated by adequate buffering.

Minor Arterial:

Purpose and Character: Minor Arterials provide capacity and continuity for travel between different districts of the region. Adjacent land uses include residential and commercial areas, open space, public lands, industrial sites and institutional sites. The activity center for a district will often be located along a Minor Arterial or at the intersection of a Minor Arterial with another Minor Arterial or a Major Collector.

Major Collector:

Purpose and Character: Major Collectors collect traffic from Minor Collectors and Local streets within a district and deliver that traffic to Major or Minor Arterials. They are generally not intended to serve trans-regional trips and generally will not provide route continuity for more than a mile or two (except in rural areas where they may be longer). These roadways are generally contained entirely within a district and connect the neighborhoods of that district with each other. Adjacent land uses include residential areas, commercial areas, open space, public lands, industrial sites and institutional sites.

Minor Collector:

Purpose and Character: Minor Collectors collect traffic from Local streets and deliver it to Major Collectors or Minor Arterials. They will not serve trans-regional trips and will not provide route continuity for more than a mile (except in rural areas where they may be longer). Adjacent land uses include residential and commercial areas, open space, public lands, industrial sites and

institutional sites. The contribution of Minor Collectors to the structural framework of the region is minimal, but will affect neighborhood form.

Connector:

Purpose and Character: Connectors provide for direct vehicle, bicycle and pedestrian connections between adjacent neighborhoods, and between neighborhoods and commercial areas. Connectors provide no route continuity beyond the areas they connect. Adjacent land uses include residential areas, commercial areas, open space, public lands, industrial sites and institutional sites.

Commercial Local:

Purpose and Character: Commercial Local streets provide for direct vehicle, bicycle and pedestrian access to commercial land uses. The streets do not serve trans-regional trips and provide no route continuity beyond the areas they connect. Adjacent land uses include commercial areas, industrial sites and institutional sites.

Residential Local:

Purpose and Character: Residential Local streets provide for direct vehicle, bicycle and pedestrian access to residential land uses. Residential Local streets do not serve trans-regional trips and provide no route continuity beyond the areas they connect. Adjacent land uses will primarily be residential.

Narrow Residential Local:

Purpose and Character: Narrow Residential Local streets provide for direct vehicle, bicycle and pedestrian access to residential land uses. They do not serve trans-regional trips and provide no route continuity beyond the areas they connect. Adjacent land uses will primarily be residential. They differ from Residential Local streets in design and in connectivity.

Alley:

Purpose and Character: Alleys provide secondary access to the rear of residential or commercial properties that are served by a street. Alleys may also be used to provide access to parking garages and surface parking lots. Alleys do not carry trans-regional trips and provide no route continuity beyond the areas they connect.

Table 7: Roadway Planning Categories Summary

Roadway Classi-fication	Route Function	Terminate At	Access Control	Maximum Vehicle Lanes	On-Street Parking	Bicycle Provision
Freeway	Interstate & inter-regional travel	Freeways or Major Arterials	Full Control	6 thru lanes, ramps as needed	No	Allowed on shoulder of some routes
Major Arterial	Inter-regional and inter-district travel	Freeway, Major Arterial, Minor Arterial	Partial Control	2 (rural) to 6 (urban) thru lanes, turn lanes as needed	Only in downtown Flagstaff	On-street lanes or parallel, close-by facility
Minor Arterial	Local travel between districts	Freeway, Major Arterial, Minor Arterial	Partial Control	2 - 4 thru lanes, 4 lane maximum	Yes, in commercial areas only	On-street bicycle lanes
Major Collector	Collect local traffic and deliver to arterials	Major Arterial, Minor Arterial, Major Collector	Partial Control	2 - 4 thru lanes, 2-way left turn only with 3-lane total	Yes, in commercial areas only	On-street bicycle lanes
Minor Collector	Collect local traffic and deliver to major collectors and arterials	Major Arterial, Minor Arterial, Major Collector, Minor Collector	Partial Control	2 thru lanes, turn lanes as needed, 2-way left turn only with 3-lane total	Yes, if width is available	On-street bicycle lanes
Connector	Connect adjacent neighbor-hoods	Minor Collector or Local	Partial Control	2 thru lanes, no turn lanes	Yes, if width is available	Bikes in vehicle lanes
Commercial Local	Access to commercial land uses	Major Arterial, Minor Arterial, Major Collector, Minor Collector	Partial Control	2 thru lanes, left turn lane if needed	Yes, if width is available	Bikes in vehicle lanes
Residential Local	Access to residential land uses	Major Collector, Minor Collector, Connector, Local	Partial Control	2 thru lanes, no turn lanes	Yes, if width is available	Bikes in vehicle lanes
Narrow Residential Local	Access to residential land uses	Minor Collector, Connector, Local	Partial Control	2 thru lanes, no turn lanes	Yes, if width is available	Bikes in vehicle lanes
Alley	Access to adjacent land uses	Major Collector, Minor Collector, Connector, Local	Partial Control	Lanes not delineated	No	Bikes in vehicle lanes

Planned Roadway Improvements

The following roadway projects and programs are included in the Transportation Plan. Certain other projects were considered in the planning process and, in some cases, were modeled but are not included in the plan because the analysis indicated they would contribute little value to the system. Some projects will eventually be needed, but are not planned within the 2020 planning horizon; these are indicated in the list below.

Arizona Department Of Transportation (ADOT) Projects

Projects included in the plan are:

- widen I-40 from I-17 to Country Club
- widen I-17 from Kachina Village to I-40
- reconfigure/reconstruct the interchange at Country Club and I-40

The reconfiguration of the Country Club interchange provides the most significant local benefit and its advancement by ADOT will be supported by the City and County. The over-widening of I-40 (beyond 6 lanes) is unwarranted and not recommended by this plan.

Developer-funded Projects Within the 2020 Horizon

Projects included in the plan are to extend:

- J.W. Powell from Lake Mary Road to new Lone Tree Road
- University Avenue to Woody Mountain Road
- Woody Mountain Road to Beulah Boulevard
- Fourth Street through Canyon del Rio

The City and County will require these projects to be built as development occurs, but will not provoke premature, leapfrog development in outlying areas by advancing or encouraging these projects before they are needed.

Developer-funded Projects Outside the 2020 Horizon

Projects which will someday be needed, but which are not included in this plan include extending:

- J.W. Powell from new Lone Tree to Fourth Street
- Butler Avenue east to Old Walnut Canyon Road

Local/Private/ADOT Joint Projects

Projects included in the plan are:

- build the Lone Tree Interchange with I-40
- extend “new” Lone Tree to J. W. Powell

The Lone Tree Interchange with I-40 coupled to the extension of “new” Lone Tree to J. W. Powell provides a critical linkage for the fastest growing travel market in the region—trips from south of I-40 into the core. The Lone Tree corridor will provide significant relief to Milton Road, San Francisco Street, Beaver Street and other streets in and around the University. Finally, this project will add a new north-south arterial in the core area, which is needed. Care will be taken to manage access to the new roadway and to ensure that development in the corridor and especially around the interchange is consistent with the Land Use Plan and is well-designed. This project is linked with the “Tank Farm” grade separation in the next category.

Locally-funded Projects Within the 2020 Horizon

Projects included in this Plan fall into five categories:

1. Railroad separations providing needed connections between the principal east-west corridors and improving continuity of the north-south arterial system. Build:
   - Fourth Street separation structure over the railroad, connecting into Route 66
   - Enterprise separation structure over the railroad, connecting into Route 66
   - Tank Farm separation structure over the railroad, connecting into Route 66
2. Simple connections and extensions designed to eliminate missing links in the roadway grid. Extend:
   - Soliere Avenue west to Fourth Street
   - Beulah Boulevard north to Yale Street
   - University Drive (stub) west to Beulah Boulevard
3. Intersection improvements providing "wide nodes" in a heavily-traveled street system:
   - Improve Route 66 westbound right turn to Fourth Street northbound
   - reconfigure/reconstruct intersection of Steves Boulevard and Lakin Drive
4. Projects which solve an important neighborhood issue:
   - provide traffic calming on Lockett Road
5. Projects which provide a significant system-wide benefit. Implement:
   - a connected, coordinated computer-controlled traffic signal system
   - an access management system cooperatively with Arizona DOT

Locally-funded Projects Outside the 2020 Horizon

Projects which will someday be needed, but which are not included in this plan include:

- Extend J.W. Powell east from airport to Lake Mary Road
- Build Rain Valley Road

Evaluation of Planned Roadway Network

Daily VMT (vehicle miles of travel)—the number of daily vehicle trips times the average trip length—is expected to grow about 82% by 2020. Both the roadway projects and the other modal programs combined with the roadway projects would reduce VMT in 2020 somewhat. This is an important characteristic of the proposed plan.

It is common for roadway improvement programs to increase daily VMT because they increase circuitous travel on new beltways and suburban roadways. However, this plan, which focuses roadway improvements in the core areas, will not have that effect. The average vehicle trip length in 2020 would be expected to be about 14% longer than today due to growth and land development patterns. Implementing the roadway projects will reduce this slightly by pulling trips onto core roadways (e.g., the new Tank Farm overpass). At the same time, implementing the full transportation plan (all modes) will increase average vehicle trip lengths slightly because most of the trips shifted to walking and bicycling are short, leaving the longer trips for driving and public transit. So, average person trip length will remain about the same, but average vehicle trip length will increase.

If this Transportation Plan were not implemented, the extent of congested roadways in the Flagstaff region would increase markedly by 2020. Level of service F (stop and go in peak

hours, with long delay at traffic signals) conditions would prevail on nearly 20 miles of roads, up from only about 3 miles in 1997.

MULTI-MODAL SYSTEM

This Transportation Plan is designed to achieve a balanced reliance on multiple transportation modes: single-occupant vehicles, multi-occupant vehicles, public transit, bicycling, and walking. This balance will enable the Flagstaff metropolitan area to attain high levels of mobility and accessibility while preserving community character and quality of life. Achieving a modally balanced transportation system rests on two general strategies:

- first, that investments be made in public transit, bicycling and walking systems to a greater extent than in the past (balancing the historic emphasis on investments in roadway capacity); and
- second, that the design of roadway projects take into account the circulation and safety needs of all modes (recognizing that the road network is the principal infrastructure, not just for private motor vehicles, but for all modes).

In addition to these programs, the City and County, working with the state and with private developers, will make targeted improvements in the roads and streets network. These are described in the Roadway System Plan section below.

This plan is designed to support the Comprehensive Plan of the City of Flagstaff and Coconino County, including the Land Use Plan and desired land development pattern. Consequently, the Transportation Plan targets resources and investments in a manner intended to support a compact, efficient urban form while at the same time protecting and enhancing existing neighborhoods and commercial areas.

Transit System

The Regional Transit System Plan (Map 9) is based on broadly stated goals and quantitative objectives derived from the Regional Transportation Plan, and on specific public transit system goals and objectives developed with the Transit Advisory Committee and the *Regional Plan* Task Force.

The public transit system goals state that public transit should be a genuine choice, financially accountable, a growth management tool, and integrated into a multi-modal system.

Specific objectives guiding the Transit Plan include targets for annual boardings, daily person trips, costs per boarding, and net operating ratio (fare box recovery ratio); a description of the future transfer system; and cooperative efforts between Northern Arizona University, the City of Flagstaff, and Coconino County, which operates the system, to provide for expanded transit operations.

Existing service was evaluated in terms of existing operations and in comparison to other peer cities to develop planned transit service changes. Some limitations of the existing system include long circular routes, excessive time between buses and limited service hours. In comparison with the other cities, the Pine Country transit system is operated efficiently; however, because of low ridership, the cost per boarding is high, which in turn leads to a low fare box recovery ratio. The Flagstaff region also offers the lowest level of transit service in terms of bus hours per capita.

Development of a future transit system requires an understanding of which key markets to serve. The markets identified by the plan include current transit patrons, college students,

commuters and core area short trips. Four specific service needs are also identified: fast cross-town travel, higher service frequency, core area circulation and an efficient transfer system.

Several strategies were developed to ensure success of the future system: employee pass program, student pass program, attractive vehicles, convenient bus stops and transfer centers, pedestrian access to the bus system, improved bus circulation, and need for a marketing program.

The planned future transit service will be organized around an express spine route operating along east and west Route 66 (between the city's southwest commercial area and the Flagstaff Mall). A core area circulator will connect the hospital, Downtown and Northern Arizona University. Finally, local routes will provide service to individual neighborhoods. The local service routes will connect to the spine route and the circulator at timed transfer nodes located in southwest Flagstaff, Downtown, midtown, and at the Flagstaff Mall.

Other elements of the service plan include extended weekday service, increased Saturday service, the addition of Sunday and holiday service, and increased peak hour service frequencies to 30 minutes.

The Transit Plan will be reviewed every two years to determine progress toward achieving goals and objectives. As the Transit Plan calls for service expansions, the success in implementing the service changes must be reviewed. Success will be monitored through specific operational parameters including number of weekday boardings, operating costs per boarding and fare box recovery ratio.

Transit System Plan

The Transit Systems Plan depicts future improvements to area transit service. Existing routes are not shown. Current service will be improved, reducing headway from 70 minutes to 30 minutes over the next 3 to 5 years. The service areas shown on the map will be connected by the improved transit system. Key future improvements include the "spine" route running from the Flagstaff Mall to the vicinity of the Woodlands Village Shopping Center; the Downtown circulator extending from the Flagstaff Medical Center through Downtown to Northern Arizona University; and improved local service to the residential markets. The service to these local markets will effectively replace today's service and route structure.

Implementation of the plan will improve service to those people who depend on transit, provide viable commuter service for those who choose to utilize it, and generally increase regional mobility. Coordination with the Northern Arizona University transit system will facilitate the implementation of these improvements. Transit policies may be found in the text under the Transportation Plan.

Non-Motorized Systems

A final, critically important element in this multi-modal Transportation Plan is the development of good pedestrian and bicycling systems throughout the region, especially in core areas.

Walking—the "pedestrian mode"—is the foundation of all mobility in the Flagstaff region. In addition to serving as a convenient, inexpensive and healthy means of making short trips, the pedestrian system provides access to transit and to auto parking. Bicycling also serves as basic mobility and as access to other modes.

A major emphasis in the Transportation Plan is placed on improving sidewalks, crosswalks and other walkways with the objective of developing a safe, continuous, well-connected pedestrian

system. Much of this will be accomplished through the design standards utilized in the construction of roads and streets projects and by incorporating well-designed pedestrian facilities into improvement projects. Private developers will make additional improvements to the pedestrian system as part of residential and commercial development projects.

Finally, the City and County will make direct investments where needed to eliminate important missing links (discontinuities) in the pedestrian system; provide improved crosswalks at intersections; and provide grade separations where high traffic volumes discourage pedestrian crossings.

The Flagstaff area enjoys a climate conducive to bicycling for all but a few weeks of the year. The urbanized area also benefits from ready access to a network of recreational trails on the public lands surrounding the city. Over the next 20 years the City and County will work cooperatively to complete the planned FUTS (Flagstaff Urban Trails System) network and to provide on-street bike lanes and signed bike routes so that there is a continuous, connected system of bicycling facilities available to all areas of the region.

Trails and Bikeways

The trails system and the bikeways system are often considered separately. They seem to have different functions, physical layout, and development procedures. However, they are actually planned to be interrelated, overlapping, and complementary in all these features. The systems maps that relate to them are the FUTS and the Bikeways Plan. However, the county trails program will consider trails and bikeways together.

Trails

The Flagstaff Urban Trail System, begun in 1989, is conceived as a combination recreation and alternative transportation system both within the city and connecting to surrounding national forest areas. (FUTS links typically are not only off-street pathways, but they are also completely separated from and independent of the street system.) Development strategy for FUTS has emphasized linking various parts of the city via primary trail corridors where there is a realistic possibility of acquiring needed right-of-way without condemnation or purchase of developed land at market prices. Use of existing greenbelts is a high priority. About 22 miles of trail are currently completed; approximately 30 miles more are proposed.

Development of FUTS is highly dependent on implementation of the City's Urban Open Spaces Plan, as the FUTS is either implemented through adjacent, private development dedication or public acquisition. In many of the older sections of the city, open space corridors are unavailable or discontinuous. In these locations, the FUTS makes use of roadside pathways that are also considered part of the Bikeways System.

While build-out of the primary system, which links important parts of the city such as arterial roads, is intended to occur via a combination of City funding and development requirements, it will eventually be completed whether or not there is adjacent private development. The secondary FUTS system, which consists mostly of connecting links such as collector roadways, will occur at the pace of development. This is particularly significant in the case of trail links through non-City-owned open space areas with little or no projected development.

Proposed Trail Link or System

Principal proposed FUTS and Arizona Trail Loop linkages include the following:

- A downtown FUTS crossing west of City Hall is to be included with the construction of the proposed Rio de Flag project. It is to include grade separations under Route 66 and the main line tracks of the BNSF Railroad. It is the new link between Wheeler Park and the existing Rio Canyon trail near I-40.
- The Foxglenn trail will provide a link to schools, neighborhoods, and Foxglenn Park in the southwest part of the city.
- The Bow & Arrow trail will provide a link to neighborhoods, schools, parks, the airport complex, and a loop to the University Heights/Tuthill trail.
- The Cheshire trail will provide a link to neighborhoods, Cheshire Park, the Museum of Northern Arizona, downtown, the FUTS system, and future development.
- The Rio de Flag alignment through downtown and east will connect the Rio north and the Rio south trail systems through the center of the city. It will also provide continuity between elements of the south side bikeways system and the Route 66 FUTS pathway. It is proposed that this project be constructed in conjunction with the Army Corps of Engineers' Rio de Flag floodplain project and include pathway undercrossings at Beaver Street and San Francisco Street. This will still grade separate at Burlington Northern Santa Fe (BNSF) streets as a greenbelt trail fully separated from the nearby street system.
- The McMillan Mesa trail would connect the Route 66 system with the McMillan system, the U.S. Forest Service trail system, and future development.
- The US 89/Rio/Old Route 66 east trail link would extend the system into the northeast portion of the city, connecting to the U.S. Forest Service trail system and Walnut Canyon National Monument.
- The Woody Mountain Road/Sinclair Wash/Flag Ranch Road trail will extend the FUTS system to the western portion of the city, to future development, to the Arboretum, and onto U.S. Forest Service lands.
- The Railroad Springs trail system will connect the Observatory Mesa trail back to the western part of the city, the Route 66/Woodlands Village system, and U.S. Forest Service lands.
- The Lake Mary Road to Fisher Point trail system will connect to other trails in the area, future development, and the U.S. Forest Service trail system. The Foxglenn to Fisher Point/Arizona Trail System trail will connect to other area trails, future development, and the U.S. Forest Service trails system.

The Arizona Trail

The Arizona Trail, a cross-state multiple-use trail, will form a loop through Flagstaff when complete. Traveling north-south, the trail now passes Marshall Lake and splits at Fisher Point. The Flagstaff segment will then travel north through the city, utilizing the FUTS system to connect to Buffalo Park and the Forest Service system trails. The alternate route, the Flagstaff Bypass, heads east from Fisher Point past Walnut Canyon, crossing Interstate 40 near Cosnino and will then loop back north, crossing Highway 89 near Elden Pueblo to connect with the existing Forest Service system trails. These two routes will meet at Schultz Pass where the trail will then continue to the Utah border.

Primary trails are now required to have 10 feet of surface width, with at least 2 feet of shoulder on each side. Most existing trails have a specially designed packed aggregate surface. Some links, particularly those that serve as bike paths adjacent to streets, are already asphalt or concrete surfaced. Future links will be asphalt or concrete where use is anticipated to be high or where there are special maintenance concerns.

Connectivity is the single most important criterion in defining desired FUTS trail links. The goal is to link as many trail users, significant residential neighborhoods, commercial districts, schools, parks, and USFS trails as possible.

Safety is the other major criterion in defining system deficiencies. Grade crossings or other crossing improvements are proposed so trail users can access surface streets with adequate provision for safe movement. In some cases, existing concrete boxes or grade separation structures will be utilized; in others, new crossings are indicated. Grade separations are indicated wherever a primary link crosses a major highway or railroad at grade. Trail development is also linked to the City's roadway development policy, piggybacking FUTS links and crossings onto already proposed roads and bridges where possible.

Coconino County Future Trail Needs

The Coconino County Parks and Recreation Department has recently created a trails program and will develop a Coconino County Trails and Greenways Plan. This plan will be a cooperative effort between the county and local, state, and federal land managers. The plan will identify trails and greenway corridors, inter-agency trail linkages, and trail user education and volunteer programs.

The County will extend the FUTS system to communities outside the city limits. For example, the Sinclair Wash FUTS Trail now ends within Fort Tuthill County Park. The County intends to extend this trail to Kachina Village and Mountainaire. The Trails Plan will identify other potential trail connections.

Bikeways

City of Flagstaff policy acknowledges the bicycle as a legitimate transportation mode to be accommodated on the public street system. With the exception of the interstate highways, every street in the city is considered to be a bicycle street. New private and public street construction is designed to accommodate the cyclist in all new projects. Traffic and parking restrictions have been implemented on many streets to provide bike lanes, and the City Traffic Code has been amended to support cycling, even to the point of allowing bikes on sidewalks. The goal of past planning and development has been to create a physical bikeway system that allows cyclists the opportunity to move safely and conveniently throughout all parts of the community.

There are now marked bike lanes on approximately 21 miles of city streets, mostly arterials and collectors, and there are over 4 miles of streets with adjacent bike paths. The travel mode shift desired by the plan is starting to occur. The existing systems still lack internal connectivity and coverage in many areas, as well as connections between the City and the County. The *Regional Land Use and Transportation Plan* emphasizes that both a concerted effort to complete missing links in the system and an active promotion of cycling to reduce traffic problems are critical.

In summary, the emphasis of the *Regional Plan* with respect to bicycling is:

- Effectively utilize cycling to meet local mobility choices and needs.
- Facilitate cycling as a mode other than single occupancy vehicle.
- Actively promote mode shift to cycling.

Bikeways System Plan and Map

The Bikeways System Plan identifies an interconnected system of on-street bike lanes and off-street multi-use paths adjacent to the streets, which complements the urban trail systems (FUTS). The function of the bikeways system is more utilitarian than the trails system. The bikeways system consists of direct, high-speed connections between trip ends on paved routes on and along streets that interconnect adjacent neighborhoods and commercial districts. When completed as planned, as Bikeways and FUTS systems, they will serve all the cycling needs of the community:

- Commuters, who need efficient routes between home and other destinations such as work, Northern Arizona University, Coconino Community College, or school.
- School children, who need safe, direct routes between home and activity centers, schools, or parks.
- Recreational cyclists, who wish either to ride from home along nearby off-road trails or to directly access the more distant network of regional trails.

Short, convenient utility trips that were previously made by walking or driving could be made more easily and efficiently by bicycle.

Making the ride to bus stops more convenient will enhance multi-modal trips. (Note: The Transit Plan as well as current Pine Country Transit operations encourage multi-modal cycling trips.)

The complete bikeways plan and map is shown on the Regional Bikeway System Plan. The Bikeway System Plan identifies corridors that may include one or both of these two facility types: Type I and Type II.

> **Type I** facilities are the Bike Paths. These are non-motorized multi-use paths, parallel to and near streets. Often in the street right-of-way or adjacent easements, they are paved and wide enough to accommodate moderate volumes of mixed bike and pedestrian traffic. They are designed for basic riders and children ('B' and 'C' cyclists) and provide direct connections between distant points and major system nodes while providing lateral separation from vehicular traffic.
>
> **Type II** facilities are the Bike Lanes. On city streets, these are lanes marked on the pavement and identified by signs and pavement markings for exclusive use by cyclists. On state highways, Type II facilities are roadway segments with either adequate curb lane width so that motorists do not need to veer into the adjacent lane in order to pass a cyclist, or edge lines marking a paved shoulder 4 feet or greater in width. Specific bike signing and pavement markings are not used on the state highways. Type II facilities are intended for the more advanced 'A' cyclists and are the routes most often used for commuting trips.

Bicycle Facilities in the County

The existing and proposed bikeways systems reside primarily within the city. Exceptions are the highways leaving the city—US 89, AZ 89A, US 180 and Lake Mary Road—which have proposed or existing Type II facilities. The *Regional Plan's* street functional classification definitions for arterial and collector streets provide a structure for the County to use in establishing design standards that encourage alternate modes of travel within and between county areas and the city. Circulation within unincorporated areas in the county is addressed through the area plan process. Linking these areas to the city network is a goal of the *Regional Plan*.

The Railroad Corridor

The mainline railroad corridor (Burlington Northern/Santa Fe) through the core of the urban area represents a major local condition affecting mobility in the Flagstaff area. The only separated street crossing of the rail corridor within the core of the area occurs at the point that Milton/Route 66 curves to the east.

Train traffic through the corridor varies between 60 and 85 trains per day depending on the season. The trains are getting longer (a national trend) and can be over a mile long. On their way through Flagstaff they may block specific crossings for as little as a minute and a half or as much as three and a half minutes. The trains not only block intersections, but they also affect the timing cycles of traffic signals. It may take five to ten minutes or even more for the effects of a train passing through town to clear up and the flow of traffic to return to "normal."

Generally, rail freight grows in proportion to the national economy, increasing during boom times and shrinking during recessions. Over the next twenty years or so, Flagstaff can expect to see freight traffic grow at a long-term rate of about 1% to 2% annually. While continued consolidations and reorganizations in the rail industry will affect rail traffic in a general way, these factors are unlikely to affect the amount of train activity through Flagstaff, since this line represents one of the few remaining major east-west cross-country rail corridors.

This corridor is also an important AMTRAK route. Flagstaff is one of a dwindling number of US cities with an active passenger rail station served by inter-city rail operations. About 200 passengers a day board AMTRAK in downtown Flagstaff. While the future of AMTRAK as an entity is uncertain, it is likely that the demand for rail passenger service to vacation/recreation destinations will increase over coming decades as the baby boom generation retires. As the National Park Service pursues the "de-automobiling" of the Grand Canyon's south rim, the stage will be set for more people to think of coming to visit by means other than their automobiles, and AMTRAK will be an attractive choice for many of them.

Alternatives for reducing the impact of the rail corridor on mobility in Flagstaff include:

- Build a new mainline freight corridor; reroute through-freight traffic out of Flagstaff.
- Lower the grade of the railroad through the downtown area and build structures to carry major streets across.
- Elevate the railroad on structure and berm through downtown area.
- Leave railroad where it is and build grade crossings for two or three major streets.

A study of these alternatives suggests the separated grade crossing to be the most cost-effective and constructable.

Open Space, Parks, Recreation & Trails Element

Table of Contents

Photo by J. Torrance

Introduction

This section focuses on the Open Space, Parks, Recreation, and Trails systems plans (Map 5–Urban Open Spaces Plan, Map 6–Rural Open Spaces And Trails Plan, and Map 20–Public Parks/Recreation Areas & Public Education Facilities Plan). These systems plans provide vital facilities and services that support the land uses and patterns as projected on the Land Use City and *Regional Plan* maps. For more detail and information for the level and type of service that will be provided based on standards for the systems plans, refer to the master plans listed under Area and Master Plan List.

GOAL OSPR1

The region will have a balanced system of open lands, natural areas, wildlife corridors and habitat areas, trails, greenways, parks and recreation facilities as guided by the *Greater Flagstaff Area Open Spaces and Greenways Plan*, the City of Flagstaff Urban Open Spaces Plan, the City's *Long Range Master Plan for Parks, Recreation and Open Space*, and County Area Plan Open Space Objectives.

Rationale

The preservation of open space and greenways is important in enhancing the region's quality of life. Open spaces and greenways function in many important ways for people and wildlife in the region. These areas protect the natural resources that people depend on, including watersheds and lakes, streams and aquifers, timberlands, and rangelands. They also protect developed places from natural hazards, such as floods. These areas can be used to direct growth to more desirable places and maintain scenic vistas. These areas also can provide recreational opportunities for residents. The *Greater Flagstaff Area Open Spaces and Greenways Plan* serves as the principal guide to the future protection and enhancement of the open spaces and greenways within the region. This plan recognizes an Open Space Green Belt area that surrounds the City of Flagstaff, which was initially established in the City's *Growth Management Guide 2000*. This area includes significant hillsides within the City and other foothills to the north. Drainageways, such as the Rio de Flag, are also included. Similarly, the City of Flagstaff Urban Open Spaces Plan identifies those open spaces and greenways within the developing areas of the Flagstaff area to provide recreational opportunities, as well as protection of the environmental quality of the urban environment. The *Regional Land Use and Transportation Plan* incorporates the relevant policies of these plans in order to develop an integrated and balanced open space, trails, and greenways system.

Policies and Strategies

Implementation Matrix Key

In the "Time Frame" column, the first number indicates when the action should be initiated and the second number indicates when it should be completed relative to *Regional Plan* ratification. For example, "0–1" means the action should be initiated as soon as possible and be completed no later than within one year of *Regional Plan* ratification. These time frames are set with the understanding that they are meant as best estimates and may have to be adjusted given the numerous parties involved in implementation of any given strategy.

The following abbreviations are used throughout the matrix:

ADOT Arizona Department of Transportation
CIP Capital improvement Program
FHWA Federal Highway Administration
FMPO Flagstaff Metropolitan Planning Organization
PRA Planning Reserve Area
RGB Rural Growth Boundary
UGB Urban Growth Boundary
USFS United States Forest Service

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy OSPR1.1—Create the Appropriate Institutional Framework for Open Space Protection in the Plan Area	*Strategy OSPR1.1(a)—Assign Institutional Responsibility* Assign responsibility for open space protection to appropriate City and County departments.	City & County	0-1
	Strategy OSPR1.1(b)—Establish an Open Spaces Coalition Create a public-private open spaces coalition to protect lands identified in the *Greater Flagstaff Area Open Spaces and Greenways Plan*, Urban Open Spaces Plan, and County area plans.	City & County	0-1
	Strategy OSPR1.1(c)—Establish Regional Open Spaces and Greenways System Establish a regional open spaces and greenways system in accordance with the recommendations of the *Greater Flagstaff Area Open Spaces and Greenways Plan.*	City & County	0-3
Policy OSPR1.2—Implement Urban and Rural Open Spaces Plans Continue to identify and inventory open spaces within the developed and developing areas of the region, which should be used to connect neighborhoods and developed areas to each other and with the larger regional open space system. The inventory, criteria and objectives should be used as part of an open spaces management program to acquire, protect, and manage properties and their resources and values.	*Strategy OSPR1.2(a)—Prepare an Inventory of Urban Open Spaces* The inventory shall identify location, ownership, current use, and other characteristics, and shall be used in determining and approving design of subdivisions, mixed-use centers, and other development and redevelopment, acquiring open space lands where and when appropriate, and determining compliance with connectivity standards.	City & County	0-2

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
	Strategy OSPR1.2(b)—Provide for Urban and Rural Open Space Acquisition and Management Programs Develop urban and rural open space acquisition and management programs to be used by the City and County that include identification and inventory of open spaces, criteria for protection, and objectives for uses, as well as implementation, acquisition, funding, and management.	City & County	0-3
	Strategy OSPR1.2(c)—Offer Incentives for Preservation of Open Space, Vegetation, and Wildlife Offer incentives, such as density transfers, public/private partnerships, assistance with mitigation measures, to developers for the preservation of vegetation, wildlife habitat and corridors, and other open space resources and values.	City & County	Throughout life of *Regional Plan*
Policy OSPR1.3—Provide Non-Motorized Transportation Corridors to Connect Communities, Neighborhoods, Open Spaces and Recreational Areas Provide non-motorized transportation corridors between neighborhoods, communities, and between the city and outlying areas and regional and national facilities and sites. Non-motorized access shall be provided from new and redeveloped neighborhoods and should be required from existing neighborhoods to regional open space via easements, trails, and on-street facilities with open space connections between FUTS and USFS trails. Existing neighborhoods are encouraged to improve non-motorized access and connections to regional open space and incorporate open space connections between FUTS and USFS trails.	*Strategy OSPR1.3(a)—Provide Neighborhood Connections to Regional Trails and Open Space Network* Adopt connectivity standards to require pedestrian, bicycle, and, where appropriate, equestrian links between residential neighborhoods, commercial areas, civic uses, parks, and open spaces.	City & County	0-1
	Strategy OSPR1.3(b)—Revise Development and Land Acquisition Standards Revise zoning and subdivision codes to provide for open space, trails, connections, and land acquisitions in accordance with the *Greater Flagstaff Area Open Spaces and Greenways Plan*, the Urban Open Spaces Plan, and county area plans. Require private developments to provide access to adjacent public lands.	City & County	0-2

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
	Strategy OSPR1.3(c)—Create an Open Spaces and Trails Acquisition Fund The City and County shall create an open spaces and trails acquisition fund to: 1. Provide trail easements in existing and future neighborhoods. 2. Develop incentives for acquisition of easements from private property owners for conservation purposes. 3. Maintain key parcels. 4. Provide access easements to and between public open space. 5. Pursue acquisition of high priority open space lands in outlying forested areas.	City & County	0-5
	Strategy OSPR1.3(d)—Acquire Access Easements and Critical Open Spaces from McMillan Mesa Proceeds Should it be determined, through the development master planning process of McMillan Mesa, that some City-owned lands are to be sold, proceeds from the sale of such lands on McMillan Mesa shall be used to acquire non-motorized access easements and critical open space lands.	City	Throughout life of *Regional Plan*
	Strategy OSPR1.3(e)—Develop County Trail System A master trail plan shall be prepared and implemented to serve non-motorized transportation users, including pedestrians, bicyclists, and equestrians, and for recreation purposes in the county.	County	1-3
	Strategy OSPR1.3(f)—Coordinate Urban, County, and USFS Trail Systems A regional trail system shall be prepared and implemented to serve non-motorized transportation users and for recreation purposes.	City, County and USFS	1-3

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy OSPR1.4—Preserve Priority Open Lands Preserve U.S. Forest Service and State Trust lands as part of a comprehensive open space system. Protect the San Francisco Peaks, Buffalo Park, Walnut Canyon, and other significant natural landmarks, features, and areas.	*Strategy OSPR1.4(a)—Preserve Priority Open Lands* Identify and preserve priority open space lands by: 1. Obtaining appropriate funding to fully implement the Greater Flagstaff Area Open Spaces and Greenways Plan and revise or adopt ordinances. 2. Revising zoning and subdivision codes to reference the Greater Flagstaff Area Open Spaces and Greenways Plan in provision of required open space and trails. 3. Requiring substantial buffers between residential developments and important natural resource areas such as San Francisco Peaks, Walnut Canyon, Mt. Elden, etc. 4. Adopting guidelines and standards to manage access to public lands from private developments. 5. Using open space subdivisions to provide open space contiguous to priority open lands. 6. Maintaining or changing zoning on public lands in accordance with the plan. 7. Identifying areas of special natural significance; creating a buffer between development and the significant natural feature; creating and adopting guidelines for design standards compatible with the setting; developing informative programs for resident use and sensitivity to the area and its resources; and establishing supportive value-based links between the residents and the preserved lands. 8. Fund an open spaces acquisition and management program by pursuing various sources of revenues and means by which to protect open space properties. Acquisition of open space lands, when desirable or necessary, shall be negotiated in good faith with involved private and public property owners and shall take into account open space values and priorities as well as availability of City and County funding. Support private open space preservation organizations and efforts to secure conservation easements from private landowners.	City & County	Throughout life of *Regional Plan*

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy OSPR1.5—Protect "Neighborwoods" Preserve "Neighborwoods" to the extent possible in order to create buffers between communities and to provide recreational opportunities for nearby residents. Should development occur in "Neighborwoods" areas, provisions shall be incorporated to ensure continued access to public lands.	*Strategy OSPR1.5(a)—Preserve "Neighborwoods"* Adopt vegetation and wildlife protection standards and guidelines to preserve "Neighborwoods" between residential communities.	City & County	0-3
	Strategy OSPR1.5(b)—Establish "Neighborwoods" Associations Establish "Neighborwoods" associations to provide stewardship of designated adjacent open space lands.	City & County in coopera-tion with home-owners associa-tions, neighbor-hood groups, etc.	1-5
Policy OSPR1.6—Provide Parks, Open Space, And Recreation Facilities Throughout the Region Integrate parks, open space, and recreational facilities when suitable with other public facilities. Recreational use of regional open space land may be permitted where it is consistent with the Land Use Plan and other policies. Active and passive recreational sites shall be located throughout the region to diffuse the impact of growth and development. The location of recreational sites on the interface areas between the city and the county shall be used as a means to provide recreational uses to nearby city and county residents.	*Strategy OSPR1.6(a)—Adopt Locational Policies* Adopt location policies and standards for the development of parks, open space, and recreational facilities.	City & County	0-3
	Strategy OSPR1.6(b)—Pursue Acquisition of Open Space Properties Fund an open spaces acquisition and management program by pursuing sources of revenues, such as private funding and donations, sales taxes, impact fees, private-public partnerships, grants, and easements.	City & County	Throughout life of *Regional Plan*
	Strategy OSPR1.6(c)—Acquire and Designate Lands for Parks/Recreation Acquire additional park/recreation lands, and/or designated City-owned lands, to accommodate growth and eliminate deficiencies.	City	Throughout life of *Regional Plan*

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
	Strategy OSPR1.6(d)—Consider Criteria and Fees for Park Land Acquisition and Development Consider criteria for park development impact fees, and land donations in lieu of fees.	City	Throughout life of *Regional Plan*
	Strategy OSPR1.6(e)—Designate and Acquire Lands for Open Space and Recreation in Redevelopment Areas As part of neighborhood redevelopment planning, designate and incorporate areas for open space, parks and recreation facilities.	City	Throughout life of *Regional Plan*
Policy OSPR1.7—Preserve Rural Character and Natural Environment Open space shall be used as a means of preserving the rural character of the county and protecting significant environmental, scenic, and wildlife areas.	*Strategy OSPR1.7(a)—Maintain Open Space Buffer Between Communities* Adopt vegetation and wildlife protection standards and guidelines to maintain buffers between communities.	City & County	0-3
	Strategy OSPR1.7(b)—Identify and Protect Wildlife Corridors Adopt and revise standards to protect, enhance, and preserve critical wildlife habitats and corridors and riparian and wetland areas in order to maintain the bio-diversity and ecological systems of the region.	City & County	0-3
	Strategy OSPR1.7(c)—Promote Regional Cooperation The City and the County shall work with the land use management governmental agencies of the region to assure the conservation of natural areas, riparian areas and wetlands, scenic viewsheds and corridors, open spaces, canyons, landmarks, historical and archaeological sites, and critical wildlife habitats and corridors.	City, County, federal and state land manage-ment agencies	Throughout life of *Regional Plan*

Open Space

Overview

The preservation of open space enhances a community's quality of life. Open space functions as a land resource, a recreational site, and a transportation corridor. It also serves an important function in development by providing a system of control over development patterns.

The area encompassed by the *Regional Plan* holds an enormously diverse and fascinating variety of geologic features. These range from 265 million year old fossil ferous limestone and sandstone deposits of an ancient sea and shoreline preserved by outcrops of the Kaibab Formation to 240 million year old sand and mud deposits of an ancient river system preserved by the Moenkopi Formation. Most of the lumps and bumps of Flagstaff's topography are formed by volcanoes or their eruptive products. These volcanic deposits range from a six million year

old olivine basalt lava flow, to the 500,000 year old Mt. Elden lava dome (one of the largest in the world) and its explosive products. The 300,000 year old Observatory Mesa lava flow is another impressive volcanic feature in town. Most of these rocks have been used as building stones in historic downtown Flagstaff.

Flagstaff is truly unique in the diversity of its geologic deposits and features. Open space should be dedicated to preserve a type locality from each of these sedimentary and volcanic rocks.

Open Space plans address the first and most important determinant of a *Regional Plan*—where urban expansion can occur and where open space should be preserved. Two open space plans have been developed for the Flagstaff region, the Rural Open Spaces Plan, and the Urban Open Spaces Plan. The *Regional Plan* incorporates the relevant goals and objectives of these plans in order to develop an integrated and balanced open space and trails system.

Rural Open Spaces

The Rural Open Spaces Plan (Map 6), which addresses the area within the FMPO boundary beyond the city limits, is part of a larger master plan, the *Greater Flagstaff Area Open Spaces and Greenways Plan (OS&GW) January 1998,* principal guide for open spaces. Both of these plans are intended to provide guidance in protecting and preserving existing open spaces with the demands of urban growth.

In 1997, a memorandum of understanding was entered into by the agencies that prepared the *Greater Flagstaff Area Open Spaces and Greenways Plan*; specifically, the City of Flagstaff, Coconino County, the U.S. Forest Service, the National Park Service, Arizona Game and Fish Department, and the Arizona State Land Department. They agreed to consider to using the *OS&GW Plan* in their land use management practices. The plan encompasses a study area of 578,000 acres that includes the FMPO, and makes recommendations for agencies to consider during their own planning. The plan, adopted by the City of Flagstaff and Coconino County in 1998, has become a key component of the region-wide growth management process in determining growth boundaries. Areas of high or low retention for open space are identified in the *OS&GW Plan*. This concept of retention areas serves as the basis of the *Regional Land Use and Transportation Plan* for defining those lands that should be preserved versus lands where urban expansion can occur.

The primary goal of the *OS&GW Plan,* and thus, the Rural Open Spaces Plan*,* is to maintain Flagstaff's quality of life by finding ways to balance development with the retention of open spaces and natural areas. The value and objectives of open space and greenways are defined in both the *OS&GW* and the Rural Open Spaces Plans to be the following.

- Community identity
- Contained and directed growth and development
- Non-motorized transportation corridors
- Recreational opportunities
- Scenic quality
- Wildlife movement corridors
- Wildlife habitat
- Water and air quality
- Flood control

The *OS&GW Plan* recognizes an open space greenbelt area that surrounds and connects with the City of Flagstaff and was initially established in the City's *Growth Management Guide 2000*.

The open space greenbelt is the foundation for the development of the Urban Open Spaces Plan and is thereby incorporated into the Regional Open Spaces Plan. The area includes significant hillsides and drainageways within the city.

Wildlife movement corridors are important to protecting wildlife migration patterns that sustain feeding and breeding activities for wildlife existence. These corridors, along with key and high quality habitat areas, are shown on the Rural Open Spaces Plan, in addition to the open space designations, and are derived from the *OS&GW Plan*.

Linkages along open space corridors are shown on the Rural Open Spaces Plan by indicating the regional trail system, which currently consists entirely of U.S. Forest Service trails. These trails often link with the Flagstaff Urban Trails System. These linkages are shown both in terms of existing and proposed connections.

Urban Open Spaces

The *Greater Flagstaff Area Open Spaces and Greenways Plan* sets forth the groundwork for protecting and preserving existing open spaces within the greater Flagstaff area. In determining the areas to be included in the *OS&GW Plan*, the following values were taken into account: community identity, contained and directed growth and development, non-motorized transportation corridors, recreational opportunities, scenic quality, wildlife movement corridors, wildlife habitat, water and air quality, and flood control.

The OS&GW Plan emphasizes open spaces and greenways which are outside the urban area. The *Regional Plan* includes and incorporates the *OS&GW Plan*. To augment the *OS&GW Plan*, additional areas to be preserved as open spaces and greenways within the Flagstaff urban area, pursuant to the Urban Open Spaces Plan (Map 5), have been studied and identified. The criteria used to select the additional areas for the Urban Open Spaces Plan were: water, resident wildlife, wildlife corridors, botanical diversity, wildlife viewing opportunity, historic significance, visual landmark and scenic viewing opportunity, and geological hazards.

The Urban Open Spaces Plan is intended to further the goals of the *OS&GW Plan*, and also the *Regional Plan*, in recognition of the fact that the natural environment of Flagstaff is both a resource which improves the quality of life for all who live here, and a treasure of bio-diversity which must be protected for its own sake. There are subtle interactions between species of plants and animals native to Flagstaff that help to maintain a precarious natural balance which can never be regained once it is destroyed. There are remarkable scenic views of canyons, lakes and mountains which are an aesthetic wonder. Even within the city limits, there is a great abundance of wildlife. Nature does not observe the urban growth boundary of the city limits. The preservation of the natural environment, both within the urban area and in the outlying areas, is crucial to the health of the natural world of which we are all a part. The natural environment of Flagstaff has intrinsic value. Implementation of the Urban Open Spaces Plan, along with the *OS&GW Plan*, will provide the framework for protecting the resources and intrinsic value of the natural world both in the greater Flagstaff area and within the urban area of Flagstaff.

Given the fact that the city is growing rapidly, and that some publicly held lands close-in to the urbanized areas of the city will eventually transfer to private interests, it becomes apparent that much of the city's perceived open space is only temporary in nature. The development process of infilling inevitably leads to pressures on what is perceived as open space within the urbanized areas. In many cases, vacant by-passed lands inside the city are considered and perceived as open space by city residents and travelers simply because they have not yet been developed. Under this tenuous set of circumstances, it is imperative that the City embark on a program of preserving quality open space within the urban areas of the city.

The Urban Open Spaces Plan focuses on those lands within the city limits and some adjacent surrounding lands such as the West Side area. The Urban Open Spaces Plan attempts to create an expansive, well-functioning open space system by combining public and quasi-public open space wherever reasonably possible and by encouraging appropriate and controlled integration of significant private open space. All components are combined to form a continuous, linked system.

The Open Space System is a central coordinating element of the *Regional Plan*. Within the system are logical major land use divisions whereby buffered islands accommodate various land uses; consequently, better use is made of the many different types of space that exist in an urban area.

The *Regional Plan* recognizes that it is difficult to define open space. Definition and implementation of the Urban Open Spaces Plan can best be served by determining the intended functions of such lands. The Urban Open Spaces Plan acknowledges the following functions in designating open space and corridors:

- Preservation of significant natural areas characterized by unusual terrain, scenic vistas, unique geologic formations, dense or unique vegetation, or wildlife habitat.
- The greenbelt principle; that is, the use of linear open space to define and control development of the city.
- Preservation of open space for recreational use such as hiking, skiing, bicycling, nature studies, and other similar uses.
- Utilization of open space lands to prevent encroachment into floodplains.
- Utilization of open space lands for retention of aesthetic and recreational values of such land in proximity to and within the city.
- Preservation of open space lands for future land use needs.
- Provision for a maximum of open space for common use, which simultaneously compensates in open space for compact building development.
- Utilization of open space lands as non-motorized transportation corridors between various land uses.
- Preservation of a ‘soft edge’ to the city.
- Preservation of wildlife corridors.

The Urban Open Spaces Plan identifies open space lands that fit the above functions, in addition to existing and proposed parks and schools that fit in as supplementary components to the whole system.

Portions of the city’s significant hillsides and drainageways have been designated, including those of Observatory Mesa (Mars Hill), McMillan Mesa, the base of Mt. Elden and other foothills to the north; and the Rio de Flag, Bow and Arrow, Sinclair, and Switzer Canyon washes. In most cases involving drainageways, the open space areas reflect, at a minimum, the 100-year floodplain boundary. Change or reduction of the 100-year floodplain, either through engineering applications or more definitive flood data, may alter the amount of land designated as open space. In hillside areas, the width of the open space is conceptual, the intent being to retain as much as possible of the designated area in a natural state.

Some open space areas may serve more than one purpose. A separate category designates storm detention areas with open space and park opportunities. Other areas included as open space include cemeteries, golf courses, interstate medians, as well as other miscellaneous areas that serve as critical buffers or links in the system.

National Forest and State Trust lands form a forested open space system that, for the most part, surrounds the city. In all instances, the intention of this plan is to retain and/or create a system of pedestrian access to these public lands surrounding the city. The *OS&GW Plan* recommends that this access for Flagstaff area communities to open spaces should be within 15 minutes of any given neighborhood.

The Flagstaff Urban Trails System addresses this recommendation by providing access through trail corridors obtained by a series of implementation measures such as acquisitions or easements. These corridors are linked to corridors in the Rural Open Spaces Plan by either showing the continuation of these urban designations outside of the city limits or indicating an extension whose alignment has yet to be determined. Because conflicts might arise among the different functions of these corridors, a balance between the needs of people and wildlife will need to be achieved.

Implementation of the Urban Open Spaces Plan will require that a multitude of approaches be further developed through this Regional Land Use Plan in conjunction with the Rural Open Spaces Plan and the *OS&GW Plan*.

PARKS AND RECREATION

Urban Parks/Recreation Areas

The *Long-range Master Plan for Parks, Recreation and Open Space (P&R Master Plan)* was adopted by the City Council in August 1996. This plan provided a framework for the citizen-approved bond for recreational improvements in 1996. The bond issue addressed improvements to existing parks, development of multiple-use fields at school facilities, and expansion of parks. Design and construction of the bond improvements began in 1997 and is estimated to be completed in the year 2003, but only a small portion of deficiencies identified by the needs assessment will be fulfilled. Therefore, the *P&R Master Plan* will continue to provide a basis for the selection and funding of future improvements.

Urban Park Standards/Classification System

Parks, recreation, and open space areas are an important quality of life factor to the citizens of Flagstaff. The local population is active with a great interest in outdoor recreation and supporting the needs of youth. As the population of Flagstaff has grown, so has the need to enhance both the quantity and quality of recreation opportunities within the community.

The City of Flagstaff currently operates and maintains 6 recreation centers, 2 pools, the downtown parks, and 23 “improved” parks, totaling approximately 575 acres. Parks are classified as: pocket (less than 3 acres), neighborhood (3-15 acres), community (15-50 acres), and regional (50+ acres). The type of amenities offered within each park further determines the classification.

Table 8: City Parks and Recreation Facilities

Pocket Parks	Acreage
Coconino Park	.25
Colton Park	.75
Guadalupe Park	.75
Joel Montalvo Park	2.1
Kiwanis Southside Park	2.1
Mobile Haven Park	1.8
Mountain View Park	1.3
Old Town Springs Park	.2
Plaza Vieja Park	.25
Smokerise Park	.75
University Highlands Park	.9

Neighborhood Parks	
Arroyo Park	8
Bow and Arrow Park	3
Cheshire Park	4.4
McMillan Mesa Park	2.5
Ponderosa Park	2.5
Wheeler Park	2.5

Community Parks	Acreage
Bushmaster Park	20
Continental Park	15
Foxglenn Park	28.3
McPherson Park	40.3

City-Wide Regional Parks	
Buffalo Park	215
Thorpe Park	219

Facilities	
Adult Center	n/a
Cogdill Recreation Center	2
Flagstaff High School Pool	n/a
Flagstaff Recreation Center	2.7
Heritage Square	.25
Jay Lively Activity Center	n/a
Mt. Elden Middle School Pool	n/a
Murdock Recreation Center	1
Therapeutic Recreation Center	n/a

Levels of Service Standards for City of Flagstaff

Acreage is not the only amenity that determines if levels of service (LOS) are being met. Playgrounds, sport fields and courts (both with and without lights), ramadas, restrooms, and other amenities must also be provided relative to the population.

In 1996, Flagstaff's parks provided a LOS of 11 acres of parks per 1,000 residents. A significant portion of the park acreage is unimproved. Existing and future park acreage, where appropriate, may be improved in the future to provide a full range of amenities.

Urban Needs and Proposed Development

Urban park and recreation development is determined by factors such as geographic distribution, amenities, and population. The number of parks, type of parks, and location of parks is guided by land availability, funding resources, development patterns, existing development, and deficiencies within a given area. The system strives to meet the following objectives:

- The need for additional active and passive recreation areas should be met as growth occurs.
- Recreational uses should be targeted to the expressed needs of community residents.
- Active recreational facilities should be provided as demand increases. These facilities may include, but are not limited to, playing fields and courts, swimming pools, recreation centers, skate tracks, BMX tracks, and playgrounds.
- School facilities, especially playgrounds, playing fields, courts, and gymnasiums, should be available for community use to reduce unnecessary duplication of recreational areas.
- Active and passive recreational sites should be located throughout the Flagstaff Metropolitan Planning Organization area to diffuse the impact of growth on any one

area. The County should be encouraged to develop parks amenities in rural activity centers.

- Agreements between the city and other governmental agencies, such as the school district, County, state and federal agencies, should be encouraged to share ownership, maintenance, and operating responsibilities.
- Consideration of development impact fees, and establishing criteria for land donations in lieu of fees, should be pursued to defray the cost of future parks and recreation development.
- Land that is appropriate for both active and/or passive recreation should be identified, acquired, and developed as applicable.

As indicated on the Public Parks/Recreation Areas & Public Education Facilities Plan (Map 20), park expansion is shown both in existing developed areas, where growth patterns continue to infill and create demand, and in undeveloped areas where growth and the need for park facilities is projected.

Urban Special Purpose Facilities

Special purpose facilities generally provide a resource for a specific use. These range from indoor recreation centers and lighted sports complexes to aquatic centers, skate tracks, BMX tracks, golf courses, and the like. The Jay Lively Activity Center, an ice arena, is an example of an existing special purpose facility in Flagstaff.

Acreage requirements to support special purpose facilities depend on the nature of the facility and its space requirements. A facility large enough to provide an aquatic center, for example, might also have indoor space for other activities, such as classes, dances, and meeting rooms for specialized segments of the community. Special purpose facilities provide opportunities to generate revenue, and allow for “partnerships” with other institutions. Special purpose facilities may be “stand-alone” developments, or occur within larger park acreage as one of several amenities.

County Parks/Recreation Areas

There are currently three county parks within the FMPO: Raymond Park at Kachina Village, Fort Tuthill County Park southwest of Flagstaff, and Peaks View Park in Doney Park. Raymond Park is 5 acres in size; Fort Tuthill County Park is 410 acres, and the site of the county fairgrounds, the Tuthill Downs horse track and rodeo grounds; and Peaks View Park is 38 acres and is under development. Lonetree Park, adjacent to the new county jail, is planned as a 2-acre urban park.

Relationship to Open Space

Where designated on the systems maps, it is the intent to locate and develop some parks/recreation areas adjacent to open space areas. Where parks/recreation areas are proposed adjacent to open space, the design will be integrated with the open spaces so as to provide a harmonious, interrelated facility, organized, structured and constructed to function sensitively with the area. Parks/recreation areas may provide entryways onto open space and vice versa.

Community Character and Design Element

Introduction

Stemming from the Vision 2020 process, community design was emphasized. *Vision 2020* stresses that design standards should be employed to reflect and enhance the community's unique history, culture, and natural and built environments. It was recognized that some development is aesthetically lacking in appeal and insensitive to its natural surroundings. Just as importantly, it proposes that commercial and employment centers could be located in closer proximity or within residential neighborhoods to decrease the need to use the automobile or motorized transportation, making it more convenient for residents to service themselves.

The *Regional Plan* promotes neighborhoods that are made up of land use patterns combining a mix of land uses, vertically and horizontally; a variety of housing types, close to commercial areas such that they are accessible by pedestrians and bicyclists; with common areas and activity centers where people can gather; and where quality design makes open space an integral component.

This section addresses the region's natural setting, design guidelines, corridors and key entry points, and sustainable design technology.

GOAL CD1

A sense of connection will be maintained in the built environment to the region's natural setting and dramatic views.

Rationale

Flagstaff is an attractive and uniquely identifiable community due to its spectacular natural setting, including its location within the largest contiguous ponderosa pine forest in the United States, the piñon/juniper woodlands, and the mountains and canyons of the region. Thoughtful design and enhancement of the community's civic buildings, public and private places, gateways, and streets strengthen the community's image and identity. Community enhancements, including landscaping and signage, concentrated along streets and city gateways convey a positive visual image and identity for the community.

Policies and Strategies

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USFS United States Forest Service

Policy	***Strategy***	***Respon-sible Party***	***Time Frame/ Years***
Policy CD1.1—Preserve the Character of the Region's Natural Setting The character of the community shall be protected through design that maintains views to the San Francisco Peaks and other significant landmarks, retains sloping landforms, and conserves stands of ponderosa pines and other native vegetation.	*Strategy CD1.1(a)—Provide Access Between Built Areas and the Natural Environment* Provide access from neighborhoods to trails and open lands.	City, County, federal and state land manage-ment agencies	Through-out life of *Regional Plan*
	Strategy CD1.1(b)—Protect Significant Views Protect views and viewsheds through a combination of incentives, acquisition where appropriate, and regulations such as height controls, site location criteria (e.g., no development on prominent ridgelines), design standards (e.g., control of roof colors), and setbacks from roadways.	City & County	0-3
	Strategy CD1.1(c)—Protect Significant Views from McMillan Mesa Protect views and viewsheds from McMillan Mesa by requiring that all development on City land and all rezonings on private land on the Mesa perform a viewshed analysis and adopt height limitations, where appropriate.	City	0-5

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy CD1.2—Protect the Region's Mountains and Canyons The mountains and canyons are an essential part of the character and beauty of the region, and they shall be preserved and protected to the maximum extent practicable.	*Strategy CD1.2(a)—Preserve and Protect Sacred Mountains and Canyons* Certain mountains and canyons are considered sacred to native peoples, and measures should be taken to protect their natural beauty and significance. The City and County should consult with tribal representatives to reach agreement on areas and sites that are considered sacred, and policies shall be prepared to ensure that these areas are appropriately protected.	City, County, tribal represent-atives	0-3
	Strategy CD1.2(b)—Protect Views of the Mountains and Canyons Protect views to the mountains and canyons through a combination of incentives; acquisition where appropriate; and regulations such as height controls, site location criteria (e.g., no development within 100 feet of prominent ridgelines), design standards (e.g., control of roof colors), and setbacks from roadways.	City & County	0-5
	Strategy CD1.2(c)—Protect Public Land Resources The City and County shall continue to work with federal land management agencies to ensure that the mountains and canyons and supporting ecosystem in the region are protected from inappropriate development.	City, County, federal land manage-ment agencies	Through-out life of *Regional Plan*
Policy CD1.3—Protect the Region's Topographic Features Protect topographic features that define neighborhood boundaries. Assets of the existing topography shall be protected by the manner in which development site work is completed.	*Strategy CD1.3(a)—Develop Site Drainage Design Standards* Develop and adopt drainage design criteria to ensure that site drainage can be accomplished in a manner that minimizes negative impacts on natural site features. Site drainage should serve as an amenity that is incorporated into the overall landscape scheme of a development site.	City & County	0-3
	Strategy CD1.3(b)—Protect Hillsides Develop and adopt a hillside protection ordinance.	City & County	0-3

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy CD1.4—Protect Forested Settings, Key Entry Points, and Corridors The presence of forested settings and viewsheds are key features in the region and present particularly strong experiences at entry points to the community and along key highway corridors. Their character shall be retained and enhanced.	*Strategy CD1.4(a)—Coordinate with ADOT and USFS* The City and the County shall work with ADOT and USFS to develop standards and guidelines to protect, maintain and enhance the function and visual character of entryways and key highway, mountains, and viewsheds. *Strategy CD1.4(b)—Develop Design Standards* The City and the County shall develop design standards and guidelines to protect and enhance viewsheds, entry points, and key roadway corridors.	City, County, ADOT, USFS City & County	1-5 0-3
Policy CD1.5—Continue Inter-agency Coordination for Development and Protection of Wildlife Habitat and Corridors Continue coordination between governmental agencies which provides early identification of potential development areas that are attractive to wildlife and that create nuisance problems and conditions that are dangerous to people and/or wildlife.	*Strategy CD1.5(a)—Through Planning Efforts Attempt to Avoid Potential Human-Wildlife Conflicts* The City and County should consult with the appropriate state and federal agencies for their review and comments in order to avoid creating potential human-wildlife conflict situations.	City, County, USFS, AZ Game & Fish	Through-out life of *Regional Plan*

GOAL CD2

The Flagstaff region will continue to protect its unique character that reflects its forested setting of ponderosa pine trees, piñon and juniper vegetation, and meadows through quality design and development. Emphasis will be placed on quality design in both the public realm—streets, civic buildings, and other public spaces—as well as the private realm—commercial buildings, work places, and housing. Preservation of vegetation and wildlife are part of the quality design and development process.

Rationale

The significant natural areas in the region enrich the community's quality of life in many ways, including by providing scenic vistas and numerous recreational opportunities. As the community develops, it is important that the natural appearing landscapes adjacent to urban and residential areas be maintained. Development should blend harmoniously with the natural environment. Through the thoughtful design of new and redeveloping areas, connections to the natural environment can be provided and impacts to topographic features minimized. Buildings, streets, landscaping, and public outdoor spaces will be arranged to preserve and accentuate the city's and the region's unsurpassed scenic views. To the extent that the preservation, acquisition, or creation of open spaces during the development design and review process is required, vegetation, wildlife and habitat should be preserved.

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy CD2.1—Develop City and County Design Guidelines The City and County shall establish guidelines to ensure that its physical character and built environment are enhanced by thoughtful, quality design.	*Strategy CD2.1(a)—Preserve and Improve the Greater Flagstaff Region's Physical Character* The City and County shall establish guidelines that apply to neighborhood, site, and building designs in order to preserve and improve the quality of the area's physical character.	City & County	0-3
Policy CD2.2—Develop a Streetscape Design Plan Streets shall be designed with consideration to safety and visual character, in a manner that is visually appealing. Shade trees, medians and parkways, a variety of colors and materials for landscape, and other amenities shall be included in the streetscape as appropriate to regional, district, or neighborhood street functions.	*Strategy CD2.2(a)—Develop Streetscape Design Standards* Adopt new road cross sections as part of subdivision specifications. Develop more visually appealing, pedestrian-attractive streets with shade trees, medians, and detached sidewalks, as appropriate, with particular emphasis on the neighborhood feel of local streets, including consideration of narrower street standards.	City & County	0-2
Policy CD2.3—Support Enhanced Civic Design Civic facilities, such as community buildings, government offices, recreation centers, post offices, libraries, and schools, shall be placed in central locations as highly visible focal points. The urban design and architectural quality shall express quality design, permanence, importance, community identity, and sensitivity to climate.	*Strategy CD2.3(a)—Identify Sites for Civic Facilities* Identify prominent sites in newly developing areas that are suitable for civic facilities, and negotiate with property owners to acquire such sites for potential government purchase or dedication.	City & County	0-3
Policy CD2.4—Preserve Cultural and Historic Resources The quality of life in the Flagstaff area shall be enhanced by the preservation of historic resources and inclusion of heritage in the development of the city and region. Historic buildings shall be considered for preservation and reused to provide a sense of connection with the past.	*Strategy CD2.4(a)—Preserve Historic and Cultural Resources* Continue to survey important historic and cultural resources. Designate important structures/districts and adopt demolition control and design compatibility standards.	City & County	0-3
Policy CD2.5—Promote Design that Supports and Enhances a Positive Image and Identity for the Region Place emphasis on the blending of design and materials in ways that have meaning and reflect the local heritage and harmony with the natural environment.	*Strategy CD2.5(a)—Develop Integrated Plans for Parks, Open Spaces, Streetscapes and Public Buildings* Utilize the placement and design of parks, open spaces, streetscapes, and public buildings to give identity to individual neighborhoods. The development, accessibility, and sharing of public spaces shall be encouraged in order to enhance the site as a place for pedestrians.	City & County	Through-out life of *Regional Plan*

Policy	Strategy	Responsible Party	Time Frame/ Years
	Strategy CD2.5(b)—Coordinate Parking Lot and Site Design Parking lots shall be designed in a manner that recognizes their subordination to overall site design.	City & County	Throughout life of *Regional Plan*
	Strategy CD2.5(c)—Relate Building Design to Community Buildings shall relate to the design traditions of the community and shall be pedestrian-friendly in scale.	City & County	Throughout life of *Regional Plan*
	Strategy CD2.5(d)—Adopt Infill Compatibility Standards Adopt compatibility standards to ensure that new infill development fits with existing neighborhoods in terms of scale, design, and other considerations.	City	0-3
	Strategy CD2.5(e)—Utilize Existing Development Patterns The downtown and its close-in residential areas have a distinct identity. This sense of unity shall be used as a model for redevelopment and infill.	City	Throughout life of *Regional Plan*
	Strategy CD2.5(f)—Protect Rural Development Patterns In rural areas where native landscape is the predominant feature, buildings should appear to be set within the natural setting in an informal manner; or where desired, organized in clusters to form outdoor pedestrian-oriented spaces. Design guidelines shall be developed and adopted in the county as part of the area planning process. The guidelines shall be consistent with community character and respectful of the natural environment.	County	0-1
	Strategy CD2.5(g)—Integrate Public Safety Issues into Building and Site Design Develop guidelines to assist in creating a safe living environment.	City & County	1-3
	Strategy CD2.5(h)—Adopt Quality Design Standards Adopt quality design standards for appropriate categories of land use (e.g., commercial, multi-family).	City & County	0-1

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy CD2.6—Promote Sustainable Design Technology City and County codes and ordinances shall not inhibit the use of sustainable design technology and shall, instead, actively promote the use of these technologies in the design and construction of new developments and facilities.	*Strategy CD2.6(a)—Encourage Sustainable Design Measures and Features* Encourage sustainable design features by financial incentives, such as tax reductions; and building code provisions, such as use of: ▪ materials having a low amount of entrained energy ▪ local or regional building materials ▪ sun and wind generated power systems ▪ passive and/or active solar collection designs and systems ▪ daylighting techniques to minimize the use of artificial lighting ▪ high efficiency glazing and insulations ▪ features for capturing and using rainwater and snowmelt	City & County	1-3
	Strategy CD2.6(b)—Promote the use of Alternative Means and Sources of Energy Efficiency The City and County shall pursue aggressive incentive and educational programs that promote the use of alternative sources and systems of sustainable living, such as use of gray water systems, passive energy, and water capture.	City & County	1-5
Policy CD2.7—Protect the Character, Quality, Historic and Architectural Patterns of the Historic Districts and Other Neighborhoods The planning and design of changes to neighborhoods should respect traditions, identifiable styles, proportions, shapes, streetscapes, relationships between buildings and yards and roadways; use historically appropriate and compatible building and structure materials for the historic district.	*Strategy CD2.7(a)—Protect the Character, Quality, Historic and Architectural Patterns of the Historic Districts and Other Neighborhoods* Develop and adopt design guidelines that respect traditions, identifiable styles, proportions, shapes, streetscapes, relationships between buildings and yards and roadways; use historically appropriate and compatible building and structure materials for the historic district and neighborhoods.	City	1-3

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
	Strategy CD2.7(b)—Infill and Redevelopment Projects in Historic Districts and Other Neighborhoods Should be Designed to Complement and Extend the Positive Qualities of Surrounding Development Develop and adopt design guidelines for infill and redevelopment projects that complement and extend the positive qualities of surrounding development and adjacent buildings in terms of general intensity and use, identifiable style, relationship to the street, and pattern of buildings and yards.	City	1-5
Policy CD2.8—Promote Restoration of Historic Buildings, Sites and Districts Preserve and improve the quality of housing and other buildings, structures and neighborhoods through their restoration and rehabilitation.	*Strategy CD2.8(a)—Provide Financial and Technical Assistance in Historic Preservation Efforts* To promote restoration and rehabilitation of historic buildings, sites and districts, continue and expand the Certified Local Government program, or other similar programs and opportunities, into other historic districts.	City	Through-out life of *Regional Plan*
Policy CD2.9—Collaborate with Residents to Stabilize, Protect and Improve Historic Districts and Other Neighborhoods While Maintaining Affordability and Viability Involve residents in the process of planning and obtaining financial and technical assistance for the protection, stabilization, affordability and viability of their neighborhoods.	*Strategy CD2.9(a)—Collaborate with Residents to Stabilize, Protect and Improve Historic and Other Neighborhoods While Maintaining Affordability and Viability* Pursue programs, tax credits, grants, low-interest loans and other financial, historical restoration training and technical programs that provide homeowners with assistance to restore buildings and maintain housing in historic and other neighborhoods at affordable levels.	City	Through-out life of *Regional Plan*

Natural and Cultural Resources and the Environment Element

Table of Contents

Photo by Lisa Minzey

Introduction

Our region's natural and cultural resources—soils, air, water, wildlife, dark skies, natural landscapes, and historic and pre-historic sites—must be protected and enhanced. This section addresses stormwater management, air and water quality, wildlife habitat and corridors, noise, dark skies, natural hazards, and archeological and cultural resources.

The Flagstaff area possesses diverse soil and geologic patterns, significant variations in slope and topography, a large contiguous ponderosa pine forest setting, and an extensive system of natural drainageways. Such areas can provide unique scenic settings, valuable resources for wildlife, and many recreational opportunities. These areas are also subject to natural processes and forces. Because of these natural forces, such areas can become hazards and thus a threat to life and property if not developed properly.

GOAL NCR1

High standards will be maintained for protection and improvement of the region's quality of life offered by its natural and cultural, historic and archaeological resources and its natural environment.

Rationale

The natural environment has played an important part in the history of the region. Past City and County policies and programs have emphasized the protection of these areas. As the region has grown, community interest in preserving the region's natural resources has also increased. The *Regional Plan* incorporates policies and strategies to protect and enhance the region's natural resources—air, water, wildlife, dark skies, and culture—and to preserve the region's unique character and quality of life, while minimizing the risks associated with wildfire and other natural hazards. There is much evidence of pre-historic occupation and some traces of pioneer history throughout the greater Flagstaff landscape. The *Regional Plan* seeks to recognize and protect these significant resources.

Policies and Strategies

Implementation Matrix Key

In the "Time Frame" column, the first number indicates when the action should be initiated and the second number indicates when it should be completed relative to *Regional Plan* ratification. For example, "0–1" means the action should be initiated as soon as possible and be completed no later than within one year of *Regional Plan* ratification. These time frames are set with the understanding that they are meant as best estimates and may have to be adjusted given the numerous parties involved in implementation of any given strategy.

The following abbreviations are used throughout the matrix:

ADOT	Arizona Department of Transportation	**PRA**	Planning Reserve Area
CIP	Capital improvement Program	**RGB**	Rural Growth Boundary
FHWA	Federal Highway Administration	**UGB**	Urban Growth Boundary
FMPO	Flagstaff Metropolitan Planning Organization	**USFS**	United States Forest Service

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy NCR1.1—Improve Air Quality Protect and improve air quality by implementation of air quality programs including but not limited to reducing the growth rate of total vehicle-miles of travel in the greater Flagstaff area, reducing the total emissions of high priority pollutants from commercial and industrial sources, and reducing area-wide smoke emissions.	*Strategy NCR1.1(a)—Monitor and Adopt Air Quality Programs* Monitor and determine acceptable standards for particulate matter.	City & County	0-3
	Strategy NCR1.1(b)—Adopt Vehicular Air Quality Maintenance Programs Adopt air quality maintenance programs to reduce total vehicle-miles of travel in the Flagstaff area, such as requiring connectivity and other measures to support non-vehicular travel, including actions designed to help implement demand-side strategies.	City & County	0-1

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
	Strategy NCR1.1(c)—Investigate Use of Alternative Roadway Construction Materials Investigate and, where appropriate, use alternative materials, other than concrete and asphalt, to reduce air-borne particulates of unpaved roadways.	City, County, ADOT	1-3
	Strategy NCR1.1(d)—Investigate Possibility of Emissions Testing Program Investigate feasibility of an automobile emissions testing program for the region.	City & County	1-3
Policy NCR1.3—Sustainable Levels of Water Use Support Plan supports on-going analyses to identify the sustainable levels of water use that can be maintained relative to development and the community living within its resources.	*Strategy NCR1.2(b)—Use Reclaimed Water* Large non-residential consumptive uses that do not require potable water should utilize reclaimed water for their needs. Examples include, but are not limited to, golf courses and public facilities, such as City and County parks.	City & County	Through-out life of *Regional Plan*
	Strategy NCR1.2(c)—Promote Joint Use of Water Features Promote opportunities to create "joint use" benefits from water features, such as stormwater basins and/or wastewater discharge areas designed to function as natural areas and incorporated into system designs.	City & County	Through-out life of *Regional Plan*
	Strategy NCR1.3(a)—Initiate Appropriate and Time-sensitive Water Use Programs Appropriate and time-sensitive programs shall be initiated so that the aquifer is not drawn down and the use of water is kept at a sustainable level.	City & County	1-5
	Strategy NCR1.3(b)—Initiate and Maintain Groundwater Monitoring Program A groundwater monitoring program shall be initiated and maintained.	City & County	Through-out life of *Regional Plan*
	Strategy NCR1.3(c)—Pursue a naturalized greenbelt channel with Flagstaff Urban Trails System accesses wherever feasible Pursue the development of a greenbelt channel for portions of the Rio de Flag with public access wherever feasible.	City	Through-out life of *Regional Plan*

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy NCR1.5—Address Natural Hazard Areas Natural and human-caused hazards which present danger to life, resources, and property shall be identified, their associated risks assessed, and development carefully controlled or conditions and areas avoided. Efforts shall be made to mitigate the impacts of natural hazards (e.g., forest fire, flooding, unstable soils, seismic or subsidence areas, high winds, steep slopes, or similar conditions) and human-caused hazards on existing areas and to plan for their post-disaster recovery. The City, County, and other appropriate governmental agencies shall cooperatively continue to develop plans, programs, regulations, and incentives which reduce the impacts from these hazards.	*Strategy NCR1.5(a)—Increase Public Awareness* Increase public awareness and provide information to the public on living and building in an environment which can present certain hazards.	City & County	Through-out life of *Regional Plan*
	Strategy NCR1.5(b)—Identify and Assess Risks to the Community Identify and assess the hazards, their risks, and their impacts to the community, and determine the acceptable levels of risk for the community.	City & County	1-5
	Strategy NCR1.5(c)—Design for Public Safety Incorporate good design in the development review process which addresses public safety as well as other important values identified in the *Regional Plan* (i.e., environmental issues, visual/aesthetic concerns). Provide alternatives to the public for building restrictions.	City & County	1-5
	Strategy NCR1.5(d)—Prepare Redevelopment Plans Prepare redevelopment plans for areas impacted by a disaster.	City & County	1-5
	Strategy NCR1.5(e)—Foster Cooperative Planning Efforts Since hazards recognize no political jurisdictions, planning among the various agencies and departments at all levels shall continue to foster a cooperative effort to address these hazards.	City & County	Through-out life of *Regional Plan*

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy NCR1.6—Abate Noise Impacts Noise abatement shall be a continuing environmental concern in the region.	*Strategy NCR1.6(a)—Implement Noise Abatement Programs* Implement noise abatement techniques through effective acoustical design and compatible land uses, with particular attention being given to the impact of transportation systems.	City & County	1-5
Policy NCR1.7—Minimize Waste The City and County shall actively pursue and support programs and activities that reduce the amount of waste that must be landfilled.	*Strategy NCR1.7(a)—Implement Waste Minimization Programs* Continue implementation of programs that emphasize source reduction, reuse, composting, recycling, and the use of materials with high-recycled material content.	City & County	Through-out life of *Regional Plan*
Policy NCR1.8—Address Hazardous Materials Disposal and Reduction The City and County shall work to reduce use and ensure safe disposal of hazardous materials by developing plans, programs, and incentives for the safe disposal and reduction of hazardous materials.	*Strategy NCR1.8(a)—Adopt Policies for Protection from Hazardous Materials* Adopt policies that emphasize reduction of use and safe disposal of hazardous materials.	City & County	1-3
Policy NCR1.9—Protect Dark Skies Protection of dark skies and conservation of energy shall be undertaken by minimizing the detrimental effects to the region's quality of life and astronomical observing conditions.	*Strategy NCR1.9(a)—Protect Dark Skies* Continue to enforce controls on night lighting to protect night skies by using state of the art technology for reducing light trespass and glare, such as in the lighting of recreational areas; by changing City and County lighting codes to allow for the two most restrictive lighting zones instead of three zones; and by permitting county area plan communities to impose more restrictive lighting standards.	City & County	Through-out life of *Regional Plan*
	Strategy NCR1.9(b)—Assess Effectiveness and Impact of Outdoor Lighting Regulations The City and County shall undertake an assessment of current outdoor lighting regulations for potential expansion and improvement and consider an outdoor lighting overlay zone in Astronomical Zone 1 as a means to provide greater protection for the observatories.	City & County	0-3
	Strategy NCR1.9(c)—Develop Lands Within Astronomical Zone 1 with Observatory-Compatible Uses Discourage uses which require all-night outdoor illumination in Astronomical Zone 1 of the lighting codes of the City and County, and encourage those uses that do not require outdoor night lighting.	City & County	Through-out life of *Regional Plan*

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
	Strategy NCR1.9(d)—Develop Additional Lighting Standards for Astronomical Zone 1 Develop additional lighting standards for Astronomical Zone 1 for outdoor lighting which may include lighting only in areas where public safety benefits can be clearly demonstrated, such as at roadway intersections and/or crosswalks, and at entryways; and using motion-sensing lighting or low-level "ambient" light camera surveillance, avoiding constant illumination.	City & County	0-3
Policy NCR1.10—Protect Archeological and Cultural Resources Historical, archeological, and cultural resources shall be identified and preserved through restoration or adaptive reuse, as links between past, present, and future generations. Any discovery of aboriginal human remains or archaeological materials shall be reported to the appropriate federal or state agency as required by applicable laws.	*Strategy NCR1.10(a)—Protect Archeological and Cultural Resources* Identify and protect historic and pre-historic sites. Support adaptive reuse through flexible development requirements and loan/grant programs. Where preservation is not feasible, provide a period for documentation prior to disturbance. Per the Arizona Burial Protection Law of 1990 any discovery of Indian burials on state and private lands shall be reported to the Arizona State Museum. Any discovery of aboriginal human remains or archaeological materials shall be reported to the appropriate federal or state agency as required by applicable laws.	City & County	Through-out life of *Regional Plan*
	Strategy NCR1.10(b)—Report Disturbance of Aboriginal Human Remains or Archaeological Materials Per the Native American Graves Protection and Repatriation Act, the Archaeological Resources Protection Act of 1979, and the Arizona Burial Protection Law of 1990, as amended, disturbance of aboriginal human remains or archaeological materials shall be reported to the appropriate federal or state agency.	City & County	Through-out life of *Regional Plan*
	Strategy NCR1.10(c)—Provide for Quality Documentation, Housing and Access for Archeological and Cultural Resources The City and County should require a high quality and level of documentation and a repository for either the recovered materials and/or report documented findings. Proper reburial, housing of recovered artifacts, and public access to documentation should be provided.	City & County	Through-out life of *Regional Plan*

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
	Strategy NCR1.10(d)—Identify, Preserve, and Foster Appreciation of Cultural Resources The City and County shall cooperate with local research institutions, professionals, interested groups, and other agencies to identify, preserve, and foster appreciation of the cultural resources in the region through appropriate programs of research, treatment, protection, education and awareness.	City & County	Through-out life of *Regional Plan*
Policy NCR1.11—Promote the Community's Cultural Diversity The Flagstaff area is a diverse region with various cultures, such as Native American, Hispanic, and Western, that would benefit from a cultural center providing a venue for learning about heritages and a means of acknowledging and showing appreciation of this cultural diversity.	*Strategy NCR1.11(a)—Develop a Multi-cultural Center* Evaluate and identify the need or community desire to have a multi-cultural center to conduct ethnic, religious, or cultural events or activities.	City & County	1-3
Policy NCR1.12—Plan within an Ecosystem Framework Natural systems, like watersheds and airsheds, and their relationships and impacts to the built environment should be considered when planning for the region.	*Strategy NCR1.12(a)—Incorporate Ecological Systems into Planning Decision-making* Planning and policy decisions in the region should be approached through an ecosystem framework. Such an approach should conserve and integrate natural areas into the developed landscape by directing development away from sensitive areas and using innovative planning, design, and management practices. Utilize this approach of integrating natural areas into new development and protecting, restoring, or enhancing natural areas when developing master plans in the region, as well as when approving the design of developments in the City and County.	City & County	Through-out life of *Regional Plan*

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy NCR1.13—Maintain and Restore Natural Processes and Systems Maintain and restore natural processes and systems, which will sustain, protect, and enhance such systems like the Rio de Flag.	*Strategy NCR1.13(a)—Maintain and Restore Natural Processes and Systems* The City and County should review development, street, and drainage standards to ensure that natural processes will be utilized to sustain, protect, and enhance ecosystems.	City & County	Through-out life of *Regional Plan*
Policy NCR1.14—Promote Forest Restoration and Sustainable Management Preserve the ponderosa forest ecosystem processes by vegetation and fire management, recognizing fire as a natural and/or human-caused occurrence with certain benefits and risks to the ecosystem. The City and County shall strive towards balancing the natural processes of the ecosystem with development concerns.	*Strategy NCR1.14(a)—Foster Cooperation Among Local, County, State and Federal Entities* Work cooperatively with appropriate groups in the region to integrate ecosystem management principles with land and resource planning and urban design.	City, County, USFS, State Land Dept	Through-out life of *Regional Plan*
Policy NCR1.15—Protect Hillsides and Ridgelines Protection of hillsides and ridgelines shall be carried out in a manner that, to the extent possible, avoids or minimizes both negative environmental consequences to the immediate and surrounding area and degradation of views and vistas.	*Strategy NCR1.15(a)—Adopt Hillside and Ridgeline Regulations* The City and County shall adopt regulations, in addition to existing zoning, to ensure that new development minimizes negative environmental consequences to the immediate and surrounding area and degradation of views and vistas.	City & County	0-3
Policy NCR1.16—Identify Natural Hazardous Areas and Control Development Identify hazardous areas which present danger to life and property from flooding, unstable soils, seismic or subsidence problems, wild fires, steep slopes or similar conditions, and control or prohibit development in such areas.	*Strategy NCR1.15(b)—Develop Private Land Conservation/Development Initiatives* Develop private sector initiatives or incentives to limit development in order to protect important hillsides and ridgelines.	City, County, private land conser-vation organiza-tions and land-owners	1-5
	Strategy NCR1.16(a)—Promote Development in Suitable Areas Promote cluster development and transfer of allowed density and development rights in floodplain or other identified natural hazards areas to more buildable areas.	City & County	Through-out life of *Regional Plan*
	Strategy NCR1.16(b)—Require Soils Tests and Construction Standards Require soils tests for questionable properties and where applicable use special construction standards for unstable soils.	City & County	Through-out life of *Regional Plan*

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
Policy NCR1.17—Address Flood Hazards Natural flood hazards in existing developed area should be reduced through both structural and non-structural measures. Development in natural rural floodplain areas shall be limited and floodplains should be restored to maintain the natural and beneficial functions of floodplains and natural washes.	*Strategy NCR1.16(c)—Develop and Implement Standards to Mitigate Natural Hazards* Develop and implement standards to mitigate the effects of natural hazards, or seismically strengthening historic buildings.	City & County	1-5
	Strategy NCR1.16(d)—Develop a Natural Hazards Plan Develop a natural hazards plan that describes current conditions and hazards that may confront the community and which includes the importance of economic, social, and environmental loss reduction, and structural protection; acceptability of risk; provides for public input, education, and support; acquisition of open space in vulnerable areas; mitigation criteria for reconstruction, redevelopment, and new development; consideration of special assessments or fees to recover the costs of mitigation, response, recovery; pursue funding for prevention of vulnerable conditions; coordination with other relevant plans and programs; identification of responsible parties; and specific techniques for implementation and monitoring.	City & County	1-5
	Strategy NCR1.17(a)—Prepare and Adopt a Flood Hazard Mitigation Plan Prepare and adopt a Flood Hazard Mitigation Plan through coordination with federal, state, County, and citizen input.	City & County	1-5
Policy NCR1.18—Inventory, Eradicate or Control Noxious Weeds, and Restore Native Vegetation The City and County shall coordinate with other agencies, organizations, and land managers to inventory and eradicate or control state-regulated noxious weeds; prevent establishment of new infestations through public awareness and education; and restore disturbed areas with native species.	*Strategy NCR1.18(a)—Inventory and Develop Regulations to Control Noxious Weeds and Restore Disturbed Areas* The City and County, in coordination with other agencies, organizations, and land managers, should develop and adopt regulations to control state-regulated noxious weeds, prevent establishment of new infestations through public awareness and restore disturbed areas with native species	City, County, USFS	1-5
Policy NCR1.19—Create a "FireWise" Community Measures, practices, and regulations should be developed and implemented to decrease the potential for destructive wildfires, to improve the survivability of structures and other infrastructure, and to provide for the safety of visitors, residents, and emergency responders.	*Strategy NCR 1.19(a)—Limit Development on Slopes and Ridgetops* Development on slopes and ridgetops should be limited to reduce the risk of damage and/or loss to structures, to provide for safety of visitors, residents, and emergency responders, and to preserve valuable wildlife habitat, viewsheds and aesthetic qualities.	City & County	Through-out life of *Regional Plan*

Policy	*Strategy*	*Respon-sible Party*	*Time Frame/ Years*
	Strategy NCR 1.19(b)—Reduce Fuel Loads and Susceptibility of Natural Vegetation to Wildfire Actively support, by providing adequate staffing and funding the Fuels Management Program and the Forest Stewardship Program in the Flagstaff region.	City & County	Through-out life of *Regional Plan*
Policy NCR1.20—Encourage Energy Conservation Measures In addition to and support of sustainable building and site design policies and strategies promoting the use of alternative means and sources of energy efficiency, the City and County shall consider energy conservation measures such as the use of alternative energy sources.	*Strategy NCR1.20(a)—Evaluate and Develop Energy Conservation Measures* Evaluate and develop standards to allow provisions for solar access, wind power, and other non-consumptive means of energy provision.	City & County	0-5

Natural and Cultural Resources and the Environment

Soils

The geology of Coconino County has directly affected the formation of various soils due to the composition of bedrock materials, topography, geologic structures and the influence of topography on climatic patterns. Soils in the area vary widely in type and character, ranging in composition from course grained well-drained materials with no limitations for construction to fine grained materials with high groundwater and substantial limitations for septic systems and building foundations. Highly permeable, cinder soils and fractured rocks generally allow precipitation to percolate to great depths. For this reason, there are no perennial streams in the area and runoff from the region is among the lowest in Arizona.

The areas with limitations are generally dispersed throughout the planning area. However, two areas generally show major limitations. These include the Fort Valley area, with shallow groundwater, and the Bellemont area, with fine grained soils with slow percolation rates and some shrink-swell potential.

Topography

The planning area is characterized by gentle to steep forest slopes in an area shaped by volcanic activity and canyon formation. Evidence of volcanic activity can be seen from the Kachina Peaks Wilderness area, which is a remnant of a volcano that once blew out, as well as the Sunset Crater volcano, the Dry Lake caldera, and many of the cinder cones throughout the region. The San Francisco Peaks mass, which is comprised of four peaks, all rise to elevations of more than 11,000 feet. Immediately north of the city lies Mt. Elden, which rises to an elevation of over 9,000 feet.

Several deep canyons incise the broad plateau, including Walnut Canyon. Walnut Canyon is 400 feet deep and has an intermittent east-northeast flow. It contains a wide range of vegetation zones, including riparian, semi-arid, and conifer species.

The major natural water and drainage feature in the area is the Rio de Flag, a tributary of the San Francisco Wash, which flows into the Little Colorado River. Originating from the San Francisco Peaks, it flows intermittently through the wide, flat valleys of the Fort Valley region, the steep, narrow canyons north of Flagstaff, and the relatively wide, flat-bottomed canyons southeast of the city. Residential, commercial, and industrial development is extensive along the floodplain of the Rio de Flag through most of the city.

Several intermittent stream drainages exist throughout the planning area. Lake Mary is an artificial lake formed from two dams to serve as a water reservoir for the area. Marshall Lake is a natural shallow lake filled with water year-round in average years. A few “dry” lakes, such as Rogers Lake and Dry Lake, exist, which when provided with precipitation, form wetlands or marshes.

The majority of areas with steep slopes (greater than 25%) are located in public lands, including the Coconino National Forest (Map 2: Federal and State Regional Ownership Patterns). Generally, only small pockets of steep slopes exist on private lands within the planning area. Steep slopes are generally less stable for development, are susceptible to erosion, and may require excessive cut and fill that can have profound visual impacts on the character of an area.

Geology

Flagstaff and the surrounding area are underlain by a complex series of volcanic and sedimentary rocks. These rock formations are formed locally and regionally by a series of folds, faults, and joint fractures that collectively represent the geologic structure of the area. The volcanic rocks that cover the area are from eruptions which began during the Pliocene time and continued into Recent time (within the last 900 years). Basaltic volcanic rocks form the surface of most of the plateau and the San Francisco Peaks, while selicic rocks form Elden, Mormon, O'Leary, and Kendrick mountains. These cinder deposits are highly permeable and represent a good recharge source to the underlying aquifers. The rock sequence that underlies the volcanic formations comprises a series of consolidated sedimentary formations laid down prior to tectonic disturbance and subsequent volcanic activity.

Historically, both surface water and groundwater reservoirs have served as sources of water supply in the Flagstaff area. The principal surface water elements in the planning area are Sinclair Wash, Rio de Flag, Walnut Creek, Upper and Lower Lakes Mary, and the Inner Basin springs. Both Sinclair Wash and the Rio de Flag are ephemeral with flows occurring only in direct response to precipitation.

Groundwater occurs locally in shallow aquifers which serve only as transient storage as groundwater percolates downward to the deeper aquifers. Many of the volcanic rocks are interbedded with weathered residual soils, which commonly have low vertical permeability. Unless extensively fractured, these volcanic rocks retard the downward movement of water to the underlying aquifers.

In general, groundwater levels in the region occur at depths of more than 2,000 feet. Within the city limits, the groundwater table ranges from an elevation of less than 6,000 feet in the southwest to about 5,200 feet in the northeast. In the vicinity of Lake Mary, a major groundwater mound occurs from which groundwater moves away in all directions. Within this area, groundwater occurs at depths of 300 to 500 feet. In some areas near Flagstaff, groundwater is found close to the surface perched on impermeable volcanic material, very fine grained sediments, or low permeability strata. These water-bearing zones supply many of the seeps and springs which were a significant resource in the early development of Flagstaff. Because of the availability of shallow water, these seeps and springs also support very diverse ecosystems in this semi-arid region.

Climate

Unlike the desert towns to the northeast and southwest, the Flagstaff area receives enough precipitation during an average year (20 inches in town to 35 inches on the Peaks) to support a significant amount of vegetation. From early July until early September, afternoon thunderstorms develop almost daily. The area receives about 10 inches of precipitation during the winter, although amounts are quite variable from one year to the next. The most severe weather is associated with storms that enter the state from the west after picking up considerable moisture from the Pacific Ocean. Most of the area's winter precipitation falls as snow, which averages 86 inches. Extreme snowstorms are not unknown to the area, however.

Correlation between regional precipitation patterns and the area's water supply indicate that: (a) relatively high summer precipitation does not appreciably increase available water supply; however, it results in reduced peak water demand; and (b) winter precipitation, either as rainfall or snow, increases the annual springtime surface water yield of the Lake Mary reservoir and the Inner Basin springs.

Seismic Conditions

A geologic hazard, such as slope stability, is an important factor along with the edges of many lava flows and inactive fault scarps, as well as the canyons of the Rio de Flag. The City has already recognized most of these areas and has reduced building along them.

Seismic hazards do exist in Flagstaff, as described by the Flagstaff Community Earthquake Hazard Evaluation, Coconino County, Arizona, published in 1997 by the Arizona Earthquake Information Center at Northern Arizona University. There is a 50% chance of a M6.0 or larger earthquake with significant ground shaking occurring in Flagstaff within the next 30 years. The Anderson Mesa Fault, which follows the northern shore of Lake Mary and then turns northward to enter the city limits is a potentially active fault which could produce such an earthquake. South of the railroad tracks, the Drive-In Fault and the Peaceful Valley Fault potentially could also experience some ground displacement during earthquakes. The Anderson Mesa fault scarp, in particular, should remain as open space because of the potential for ground shaking and ground cracking along it.

An earthquake hazard evaluation was completed for the Flagstaff area in 1997 for the Arizona Division of Emergency Management, Earthquake Program. The evaluation was conducted for this area based upon its relatively large and rapidly expanding population, proximity to seismic sources, and damaging historical earthquakes. The risk of ground shaking in the Flagstaff area is considered moderate. However, the overall seismic risk to the Flagstaff community is increased by the growing population and presence of unreinforced masonry buildings.

Flagstaff is subject to ground shaking from earthquakes originating in the Northern Arizona Seismic Hazard Belt. Historically, earthquakes originating in this belt have resulted in ground shaking and damage to the Flagstaff region in 1906, 1910, and 1912, all now believed to have occurred within 24 miles of Flagstaff.

The northwest trending Catarak Creek fault system underlies the Flagstaff region and appears to be controlling much of the area's seismicity. The Lake Mary fault graben, located just south of Flagstaff, is one of the longest segments of this system. Arizona is designated by the Federal Emergency Management Agency National Earthquake Hazards Reduction Program as a "high risk" state for earthquakes.

STORMWATER SYSTEM

As one of the systems plans, the Major Stormwater Facilities Plan (Map 18) provides vital facility and service that support the land uses and patterns as projected on the Land Use City and *Regional Plan* maps. For more detail and information for the level and type of service that will be provided based on standards for the systems plans, refer to the master plans listed under Area and Master Plan List.

Floodplain

Flagstaff has many acres of otherwise developable land impacted by potential flooding. The 100-year floodplain, shown on the Regional Physical Influences (Map 1), indicates that a large portion of the floodplain is developed, and consequently there exists the potential for catastrophic flooding. The heavily developed areas include the Downtown, Southside, Sunnyside, Northern Arizona University, and Continental areas. These areas have experienced considerable damage from many historical flood events, which saw these areas under water for extended periods of time. Flooding potential increases development costs since new construction must be either floodproofed or raised above the level of the 100-year flood elevation.

The Rio de Flag Flood Control Project, which is currently under study, proposes to realign and restore the Rio de Flag's channel to its historic outfall through Flagstaff in order to minimize potential flood damages. This project will create new opportunities for infill and redevelopment in areas that are currently restricted by floodplain limitations.

Within the unincorporated areas of the FMPO, flood prone areas include the Rio de Flag in the Fort Valley and Doney Park areas. These areas have experienced many historical flood events, which saw these areas under water for extended periods of time. Flooding potential increases development costs since new construction must be either floodproofed or raised above the level of the 100-year flood elevation.

Flooding events in the Flagstaff area have been documented back to the late 1800s. Nearly 100 years of development, encroachment into floodplains, channel relocation, and lack of watershed master planning have resulted in numerous problems such as large regulatory floodplains, inadequate channels, undersized roadway crossings, overtaxed storm drain systems, street flooding, erosion, channel degradation, and sedimentation.

Flagstaff's drainage "system" comprises natural washes, streets, and limited storm drains. This "system" has never been planned, designed, or analyzed in a comprehensive manner. The Rio de Flag serves as the primary conveyance for all runoff in the City of Flagstaff. Approximately 133 square miles of the Rio de Flag watershed concentrates at Route 66 in the Continental area (east side of the city). The constraint and ponding at Route 66 serves as a de facto regional detention and flood control facility that limits flows in the Rio de Flag through the downstream in the Doney Park area. Future development throughout the Rio de Flag watershed will only continue to increase levels of flooding in the Continental area.

Since 1979 alone, development (i.e., impervious area) in the Flagstaff area has nearly doubled. The Rio de Flag Feasibility Study projects that future development—projected out to the years 2003 and 2053—will increase the potential for local and regional flooding, risk to life, property damage, erosion hazards, transportation disruption, and damage to public infrastructure. Flood hazards exist along the Rio de Flag and tributary washes, especially within the 100-year flood plain. Development should be limited in these areas to reduce the damage incurred by future floods and to enhance the natural infiltration of floodwaters during floods. Plans for open space should be tied in with the Army Corps of Engineers' flood project for the Rio de Flag and Clay Wash.

As with most communities, most of Flagstaff's watersheds extend outside the city's jurisdictional boundaries. Future development that occurs to the north and west of the city limits could have adverse downstream impacts if runoff is not mitigated properly. Without the benefit of master planning, hydrologic modeling, regional detention or other mitigation measures, the resultant increases in runoff within these watersheds will exacerbate existing deficiencies and flooding problems and/or result in costly public drainage infrastructure improvements.

Level of Service Standards

The City of Flagstaff currently has no adopted level of service standard or level of protection criteria. Generally, in a drainage setting, level of service means the extent to which stormwater is allowed to pond on a surface during a storm of a designated return interval (e.g., 25-year or 100-year). A recommended five-level approach for *street* flooding is:

Table 9: Street Flooding Level of Service

Level of Service	Definition
A (Superior)	Water level below the top of curbs and all traffic lanes open
B (Excellent)	Water level below the top of curbs and one lane dry in each travel direction
C (Standard)	Water level over the top of curbs; sidewalks flooded; yards and first floor of buildings dry
D (Substandard)	Roads flooded and impassible; yards and first floor of buildings flooded
E (Uncontrolled)	Essentially no flood protection

Levels of service for flooding along existing *washes* are identified as follows:

Table 10: Washes Flooding Level of Service

Level of Service	Definition
A (Superior)	Maximum water surface level below the top of the channel banks; no overbank flooding; no overtopping of roadway crossings
B (Excellent)	Partial overbank flooding; roadway overtopping of less than six inches; partial yard flooding
C (Standard)	Overbank flooding; yards flooded; first floor of buildings dry; roads overtopped less than 12 inches
D (Substandard)	First floor of buildings flooded; roads flooded and impassible
E (Uncontrolled)	Essentially no flood protection

Projected Needs and Proposed Improvements

The goals of stormwater management are to:

- protect life and health
- minimize property losses
- enhance floodplain use
- ensure a functional drainage system
- protect and enhance the environment
- encourage aesthetics
- guide development

The most effective method of meeting these goals is development of a comprehensive Stormwater Master Plan (SMP). The SMP would need to be a watershed-based, multi-objective approach that analyzes existing and future conditions. The minimum elements of an SMP would include an inventory of all pertinent drainage structures, watershed hydrologic modeling, hydraulic modeling, identification of deficiencies, identification of proposed solutions and the effects of proposed solutions, capital improvement cost estimation and project prioritization, and identification of funding sources. The major work programs of the stormwater management element have been identified as:

- Development of a watershed-based Stormwater Master Plan.
- Development of a funding mechanism dedicated to stormwater management.
- Revision of existing Flood Insurance Rate Maps.
- Development of a Flood Hazard Mitigation Plan.
- Development of an Urban Wash Restoration/Enhancement Program.
- Development and implementation of water quality runoff standards.
- Development of stormwater management standards/criteria for Coconino County.

Proposed Improvements

The proposed improvements, depicted on the Major Stormwater Facilities Plan (Map 18) represent a preliminary Stormwater Master Plan within the city limits. The Coconino County Flood Control District has no proposed projects within the Flagstaff Metropolitan Planning Organization boundary. These proposed projects were determined based on existing levels of service (LOS) along washes and the effects of future development identified in this *Regional Plan*. The proposed projects, with current LOS indicated, are listed below. The list does not represent a prioritization of these projects.

- Rio de Flag/Clay Avenue Wash Flood Control Project (LOS D and E)
- Clay Avenue Wash Regional Detention/Open Space Facility
- Bow & Arrow Wash Regional Detention Facility
- Big Fill Lake Regional Detention/Multi-use Facility
- Milton Road Storm Drain Replacement (LOS C)
- Bow & Arrow Wash Flood Control Project (LOS D and E)
- Switzer Canyon Flood Control Project No. 1 (LOS D and E)
- Switzer Canyon Wash Flood Control Project No. 2 (LOS D and E)
- Fanning Drive Wash Flood Control Project (LOS C)

Development within Planning Reserve Areas (PRAs) may require sub-regional drainage infrastructure. This will be determined on a case-by-case basis depending on zoning, density, type of development, and individual master plans within the PRA.

The City of Flagstaff's drainage system consists of natural washes, with a peripheral drainage system that was designed in a piecemeal fashion as development occurred throughout the city. Historically, most drainage projects were either constructed as a reactive measure or were part of a larger transportation or redevelopment project. Many of these projects subsequently created new problems in addition to solving old ones. It has become evident that such technical solutions seldom work to fix institutional problems and that unless the institutional problems are addressed, the physical consequences (e.g., flooding, erosion, crumbling infrastructure, and pollution) will never be fixed.

Flagstaff is facing a growing list of stormwater problems and issues including: undersized drainage systems, increasing drainage complaints, litigation, a lack of comprehensive drainage system maintenance, and a lack of vision and direction. Urban growth impacts, new roads, and ineffective development regulation, among others, continue to exacerbate existing problems and create new ones. The City now also faces water quality issues and federal regulatory mandates under the new National Pollutant Discharge Elimination System (NPDES) Phase II Program. As a result, the City is challenged with the difficulty of how to fund a more comprehensive stormwater management program without impacting other municipal services.

The City's policy of requiring on-site detention for new development may have exacerbated the problems it was intended to mitigate, because of unknown downstream impacts, lack of routine maintenance, aesthetics, and safety concerns. To address this issue, the City is exploring the concept of regional and sub-regional detention to address the effects of increased development. Such regional detention basins would be operated and maintained by the City and could serve multi-purpose facilities for recreation, wildlife habitat, and water quality treatment. The regional detention concept would require multi-objective watershed-based master planning, capital improvements, property acquisitions, and environmental assessments.

The City currently has no dedicated funding source for the administrative, operation, regulation and enforcement, engineering and planning, capital improvement, and water quality functions of a stormwater management program. Therefore, stormwater programs and projects must currently compete for general funds. Stormwater management is, however, undergoing an evolutionary process similar to that witnessed in the water and wastewater industries several decades ago and stormwater is being viewed as a public issue in the same manner as water and wastewater. The "utility" or user fee concept of funding and managing stormwater programs is becoming increasingly popular as cities and counties strive to plan and carry out effective stormwater programs. User fees are based on the amount of runoff individual properties place into the system, therefore, this financing method affects both existing and new development. The stormwater utility concept has proven to be one of the best mechanisms for accomplishing this goal, as it is an equitable, stable, and adequate method of funding a stormwater program. The feasibility of implementing a stormwater utility for the City of Flagstaff is currently being investigated through the City of Flagstaff Stormwater Program and Financing Action Plan.

WILDFIRE

In the Flagstaff area, fire is a natural and frequent occurrence. Under proper conditions, these fires may provide certain benefit to the ecosystem. Ponderosa pine trees, our predominant forest type, are adapted to, and dependent upon, low intensity fires. Fire is a major nutrient cycling agent of the Southwest and was frequent prior to European settlement. The ignition source for fires may result from natural sources, such as lightning, or may be human-caused (accidental or arson). The greater Flagstaff area averages roughly 600 ignitions per year, split fairly evenly between natural and human-caused.

Three factors influence the spread of wildfire: fuel, weather, and topography.

Fuel—Flagstaff lies in the largest contiguous ponderosa pine forest in the world. Pine needles and branches do not decay in our area like they do in wetter, more humid climates. Today, our forests are vulnerable to destructive fire due to the amount of accumulated fuel—both live and dead. Fuel accumulation began at the time of settlement. Its cause is three-fold: industrial grazing (unlike that practiced today), past timber harvesting practices, and the active suppression and exclusion of natural fires. Once predominately confined to the ground fuels (grasses, shrubs, lower tree limbs), fires burned with relatively low-intensity. Due to this accumulation, they now commonly burn hotter and involve the entire trees or groups of trees.

Weather—Local fire spread pattern is from the southwest to the northeast due to the prevailing wind pattern. We experience roughly 50 fire weather critical days per year. They are characterized by high temperatures, low relative humidity, and brisk winds. Any ignition during these times can have serious consequences.

Topography—Fires burn faster upslope than down. Canyons, ridges, saddles, and drainages funnel wind. South-facing slopes dry quicker and fuels on these sites typically ignite easier than those found on north-facing slopes.

The "Wildland/Urban Interface" describes both the geographical area where development meets naturally-occurring flammable fuels, such as homes in a forested area and those areas where secondary effects resulting from a destructive fire can seriously impact lives, infrastructure, and property. An example being flooding and debris flowing in the Rio de Flag drainage from a previously burned area in Fort Valley.

The City of Flagstaff is a community threatened by destructive fire. Wildfire is our number one fire threat. Without a comprehensive program to address the wildfire issue, the existing hazard can be expected to increase as additional structures are constructed and population increases.

Hazard mapping, construction techniques, building materials, public education, and forest stewardship, including the selective removal of trees, proper brush disposal, and judicious use of prescribed fire are all integral components required to reduce the hazard. Proper implementation of these efforts will assure a "firewise" community, where a green, forested, sustainable environment exists for the benefit of all.

Heavy use of wildlands, intermixed development, and weather conditions contribute to the potential for wildfire. The existing relative hazard can be expected to increase as additional structures are constructed in areas with characteristics favorable to wildfire spread.

While topography is a major issue for wildfire spread, ridgetop properties with desirable views continue to command a premium price for rural residential development.

The development of areas with high fuel risks presents other conflicts in addition to the increased dangers to personal and property damage. Many vegetative communities that are dependent upon repeated fire occurrence for maintenance are critical wildlife habitat areas. The modification of such areas by the placement of structures, roads, and fuel breaks may substantially reduce the amount of browse and cover that are available to shelter and support wildlife species, and may cause visual and aesthetic changes to the landscape that form an important part of Flagstaff's character.

Programs, such as hazard mapping, the Forest Stewardship Program, and the re-introduction of fire through prescribed fire programs, all help to reduce the hazard.

Noxious Weeds

The existence and continuous increase of noxious and/or invasive exotic weeds present a threat to native plant diversity in the Flagstaff area. These noxious plant species affect threatened and endangered species, while some are poisonous to humans and wildlife. The acres infested by noxious weeds increase exponentially every year. They are undesirable, compete with native species, are destructive to wildlife habitat infrastructure, and are difficult to control. The main location of infestation is along major travel corridors, construction zones, and high use recreation areas.

To help address these pernicious and persistent problems will require eradication of noxious weeds and restoration of native vegetation. The Northern Arizona Weed Council coordinates weed control efforts between landowners and land managers in the San Francisco Peaks Weed Management Area. The objectives are to:

- Expand education and training programs on noxious weed awareness
- Promote local weed research projects
- Promote restoration of disturbed areas with native species
- Promote adoption of policies to ensure continuation of these projects with local land management agencies and landowners

Historic Preservation

Flagstaff has a high number of historic buildings per capita. These resources contribute to a strong sense of place and community identity, benefit the residents, and attract visitors to the city. This rich array of historic resources, which reflect more than 100 years of settlement and growth, provide tangible witness to the development of the railroad, transcontinental highways, logging and building stone industries, local and county government, livestock and agriculture, science, higher education, and business in Flagstaff and northern Arizona.

Most of the more than 650 resources from the historic period (1880-1945) are inventoried in systematic surveys, and many are included in several National Register Historic Districts (Map 21: Historic Properties & Districts): Flagstaff Railroad Addition Historic District, Flagstaff Townsite Historic Residential District, Flagstaff North End Historic Residential District, Northern Arizona Normal School Historic District, and Lowell Observatory Historic District. Flagstaff Southside Historic District has been nominated to the National Register. The Flagstaff Old Town Historic District, though surveyed and documented, has yet to be nominated to the National Register. The Flagstaff Multiple Resource Area includes three districts and 16 additional individual properties. Although many of these resources are of significance on their own, others are important as contributing parts of a collection of buildings, neighborhoods, or streetscapes. All of these district nominations and surveys (undertaken between 1980-1993) are available to the public at Cline Library Special Collections and Archives, at the Flagstaff Coconino County Public Library, and at the Arizona Historical Society/Pioneer Museum.

In 1996, Flagstaff qualified as a Certified Local Government (CLG), making it eligible, under the National Historic Preservation Act, for financial and technical assistance in historic preservation efforts. In order to achieve CLG status, the City adopted a local historic preservation ordinance and established an historic preservation commission which meets regularly and reviews development, redevelopment, and alterations in historic districts. Currently, the Flagstaff Historic Preservation Commission reviews only the “Downtown District” (bounded by Cherry Avenue on the north, Humphreys Street on the west, Route 66 on the south, and Verde Street on the east), applying design guidelines to this Historic Design Review Overlay District, which was established in 1997. Continuing CLG status requires that these reviews be ongoing, and that the commission continues to review, identify, and nominate additional historic resources worthy of preservation.

Dark Skies

Since the establishment of Lowell Observatory in 1894, Northern Arizona has long been recognized by its residents and the astronomical research community for its clear, dark nighttime skies. Because of favorable weather, atmospheric conditions, and dark skies, the area surrounding Flagstaff is a premier area for astronomical observations. Two major observatories and two smaller ones are presently located in the Flagstaff area, with a large telescope project having recently been constructed. The Flagstaff area remains one of the premier astronomical sites in the world and can remain astronomically productive only if artificial light and air pollution can be kept under control as the region grows. This will require not only the continued enforcement and improvement of local lighting codes, but as development begins to spread into the areas nearest the observatories, special considerations need to be addressed. To allow for the continued pursuit of astronomical research and the enjoyment of the nighttime visual environment, the detrimental effects of light pollution should be minimized while conserving energy and resources.

Water Resources Element

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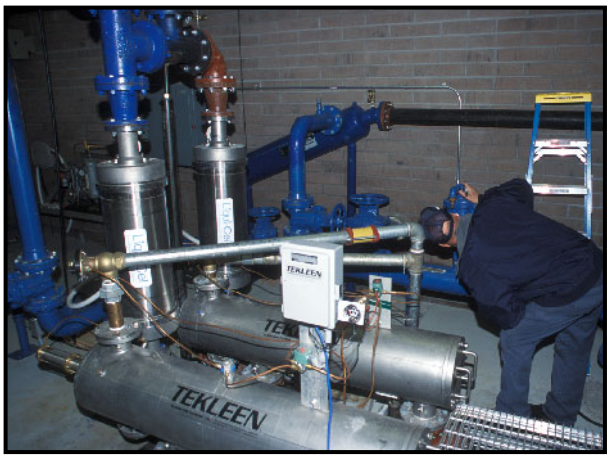


Photo by Drew Schear

Introduction

As two of the systems plans, the City Utilities Plan – Water (Map 15) and City Utilities Plan – Wastewater (Map 17) provide vital facilities and services that support the land uses and patterns as projected on the Land Use City and *Regional Plan* maps. Water and wastewater utility service in the Flagstaff Metropolitan Planning Organization is provided by a number of private and public entities, sometimes by individuals or individual developments (Map 14: Regional Utilities Plan – Water and Map 16: Regional Utilities Plan – Wastewater).

Growing Smarter Plus legislation, A.R.S. §9-461.05.D. and §11-821.C.3., requires a water resource element that addresses:

- "The currently available surface water, groundwater and effluent supplies.
- An analysis of how the future growth projected in the general plan will be adequately served by the legally and physically available water supply or a plan to obtain additional necessary water supplies."

The water element is required as a part of a general plan for municipalities as well as a part of comprehensive plans for counties over 125,000 population. As of the most recent decennial census (2000), Coconino County's population was 116,320 and is, therefore, not subject to the above regulation.

Water and wastewater utility service in the FMPO is provided by a number of private and public entities, sometimes by individuals or individual developments.

Goals and policies for the Water Resources Element are included in the Natural and Cultural Resources and the Environment and the Community Facilities and Services Elements.

CITY WATER SYSTEM

Currently Available Water Supplies/Surface Water:

Upper Lake Mary, a manmade impoundment on Walnut Creek, provides Flagstaff with a surface source of water supply. It is located approximately 10 miles southeast of the Lake Mary Water Treatment Plant. Upper Lake Mary is formed by a dam built in 1941, which creates a relatively long, narrow and shallow reservoir. Upper Lake Mary is approximately 5.5 miles long, 38.5 feet deep and varies in width from 2,000 feet to 300 feet. At the spillway crest elevation, the lake surface is approximately 860 acres and the storage volume is over 15,000 acre-feet.

Upper Lake Mary is fed by three main sources of water: Walnut Creek, flows through Newman Canyon, and Babbitt Creek. These sources are ephemeral and under normal conditions, flow into the reservoir primarily as a result of snowmelt during the spring. The springs along Babbitt Creek, however, produce water over a longer period (spring through summer). Flows in these streams vary widely from year to year depending on the amount of snowfall and summer rainfall. The watershed contributing runoff to Upper Lake Mary encompasses about 53.5 square miles and is generally heavily forested. The watershed is within the Coconino National Forest, including only a few private parcels.

Surface water from Upper Lake Mary is pumped to the Lake Mary Water Treatment Plant. The plant is a conventional treatment plant that includes coagulation, flocculation, sedimentation, filtration, and disinfection. The treatment capacity of the Lake Mary Water Treatment Plant is 8 million gallons per day. The amount of water that can be obtained from the Lake Mary Plant is determined by the amount available in Upper Lake Mary. This varies from year to year and is based on the winter snowpack and the amount of annual runoff the lake receives. After passing through the treatment process, surface water is pumped into the City's water distribution system.

Typically, annual runoff into Upper Lake Mary is adequate to provide enough surface water supply that the City of Flagstaff has no problems meeting summertime water demands. Dry years have been experienced when surface water is not available. This presents a scenario that must be planned for. The City of Flagstaff has been participating in the Northern Central Arizona Regional Water Study with the Arizona Department of Water Resources and other Northern Arizona communities. The study group has been looking at the possibility of a pipeline from Lake Powell that would be able to alleviate water supply problems in several Northern Arizona communities. In the case of Flagstaff, the water from the pipeline would be used to replace surface water from Upper Lake Mary during years that surface water is not available due to poor runoff.

A determination of the amount of water (in million gallons) that can be anticipated annually from Upper Lake Mary is made statistically by finding the 95% confidence interval. In other words, what is the amount of water we are 95% confident can be obtained from the lake on an annual basis. In doing this calculation, we use a 30 year sample. The standard deviation of the water produced by the lake for all years is not known so the *Student's t distribution* is used. The formula and calculation to determine how much water can be expected from the lake on an annual basis follows.

$$\bar{x} - t_{\alpha/2,n-1}\left(\frac{s}{\sqrt{n}}\right) to\ \bar{x} + t_{\alpha/2,n-1}\left(\frac{s}{\sqrt{n}}\right)$$

A sample of 30 years of data is used from 1970 to 1999. The critical value of *t* is taken from a standard "Table of Percentage Points of the *t*-Distribution."

$\bar{x} = 1007\ .2\ million\quad gallons$

$s = 408\ .6\ million\quad gallons$

$n = 30\ \ years$

$\alpha = .5$

$t_{\alpha/2,n-1} = 2.045$

$$1007.2 - 2.045\left(\frac{408.6}{\sqrt{30}}\right) to 1007.2 + 2.045\left(\frac{408.6}{\sqrt{30}}\right)$$

It can be determined with 95% confidence that from 854.6 to 1159.8 million gallons per year of water from Upper Lake Mary can be obtained.

The Inner Basin of the San Francisco Peaks has been used as a surface water source of water supply since the 1920s. The existing transmission pipeline from the Inner Basin was constructed around 1927. Prior to that time, the natural springs occurring in the basin had been developed to a limited extent, but not until construction of the existing pipeline to the city was extensive spring development undertaken. Drainage galleries were constructed to collect the subterranean water from surface springs and transport it through collector lines to the upper weir house. From the upper weir house, water is carried by a 14-mile pipeline, varying in size from 14" to 16", to the lower weir house where the flow is measured prior to going through the Reservoir Filtration Plant. At the Reservoir Filtration Plant the water is filtered and disinfected prior to being pumped into the water distribution system. In order to extend the City's ability to obtain water from the Inner Basin, thirteen wells were drilled between 1966 and 1971. Currently, only three of the wells are capable of production and the remaining wells are only observation wells. The well pumps are driven by diesel engines and fuel is supplied to the wellfield on a weekly basis. Operation of the wells during the winter months is not possible due to the fact the Inner Basin is not accessible by a fuel truck at this time.

A similar calculation as that done for Upper Lake Mary is used to determine the 95% confidence interval for the average annual yield of water from the Inner Basin. As in the Upper Lake Mary calculation, 30 years of data are used, from 1970 to 1999.

$\bar{x} = 289\ \ million\quad gallons$

$s = 130\ \ million\quad gallons$

$n = 30\ \ years$

$\alpha = .5$

$t_{\alpha/2,n-1} = 2.045$

$$289\ - 2.045\left(\frac{130}{\sqrt{30}}\right) to\ 289\ + 2.045\left(\frac{130}{\sqrt{30}}\right)$$

In this case it can be determined with 95% confidence that 240.5 to 337.5 million gallons of water per year from the Inner Basin can be obtained.

Currently Available Water Supplies/Groundwater

The City of Flagstaff obtains groundwater from 21 wells. Three of these wells are in the Inner Basin and were already included in the yield analysis for the Inner Basin so they will not be included in this groundwater analysis. Six of the City's wells are located in the proximity of Lower Lake Mary, ten wells are located in the Woody Mountain wellfield (southwest of the city), and two of the City's newest wells are located in City parks. The City of Flagstaff and the United States Geological Survey jointly funded a study titled Geophysical Investigations and Geohydrology of the Regional Aquifer near Flagstaff, Arizona, to be published in fall of 2000.

The study indicates that water levels have been declining in the localized wellfield areas as a result of more dependence on groundwater. The Woody Mountain wellfield has shown a decrease in water level of approximately 35' over 42 years. The Lake Mary Wellfield has shown a water level decrease of 100' over a period of 34 years of pumping. Indications are that the water levels recover and the amount of groundwater being pumped is only 1.7% of the estimated annual recharge. In response to this, new wells are being sited outside of the wellfields, such as the Foxglenn and Continental wells. Efforts are being made to better manage pumping to eliminate the localized wellfield impacts. The following table identifies existing water wells operated by the City of Flagstaff and their pumping capacities.

Table 11: City of Flagstaff Wells

Well	Gallons Per Minute	Million Gallons Per Day
Lake Mary No.1	200	.21
Lake Mary No.2	420	.57
Lake Mary No.4	686	.93
Lake Mary No.5	450	.25
Lake Mary No.8	1650	2.0
Lake Mary No.9	320	.32
Woody Mountain No.1	243	.36
Woody Mountain No.2	280	.43
Woody Mountain No.3	720	.83
Woody Mountain No.4	325	.56
Woody Mountain No.5	252	.36
Woody Mountain No.6	510	.60
Woody Mountain No.7	600	.76
Woody Mountain No.9	520	.80
Woody Mountain No.10	295	.40
Woody Mountain No.11	500	.51
Foxglenn Well	375	.5
Continental Well	375	.43
Total		**10.82**

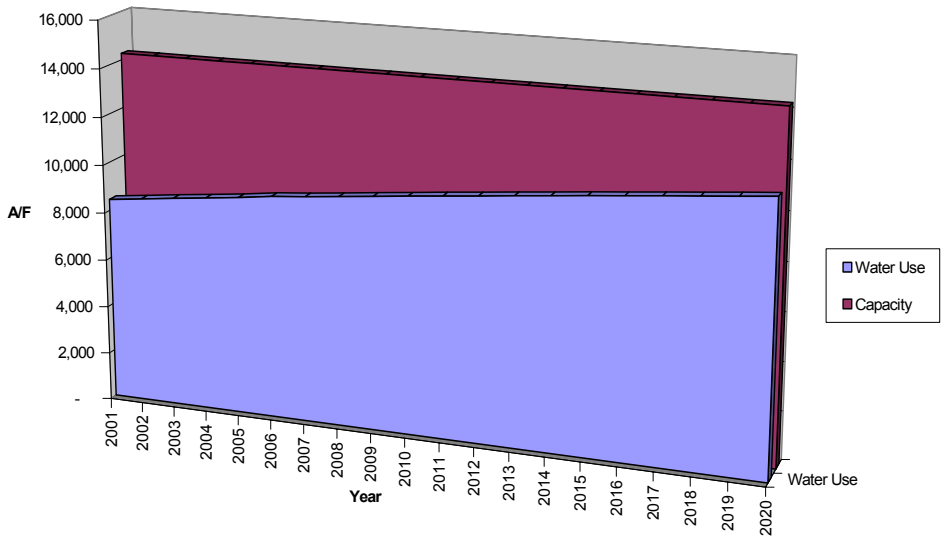
Care must be taken in using the total groundwater capacity number due to equipment failures and the long period of time it takes to repair well pump and motors. Most of the City of Flagstaff's wells are very deep (1000-2000 feet) and operate using specialized pumping equipment. It is not unusual for a well pump or motor to be out of service for several months while repairs are being made. For this reason we will only consider 90% of the identified groundwater capacity to be actually available to the City of Flagstaff. The amount of groundwater that can be pumped annually amounts to 10.82 million gallons per day x 365 days x 90% = 3.55 billion gallons.

Effluent Water

Effluent water from the City of Flagstaff's wastewater treatment plants has been used since the early 1980s for golf course irrigation. In 1993 a new reclaimed water plant was built to meet the City of Flagstaff's needs for additional wastewater treatment capacity and provide reclaimed water to west Flagstaff. The reclaimed water distribution system now supplies water to parks, schools, public grounds, cemeteries, and contractors in addition to golf courses.

Additional storage capacity is being constructed at the Wildcat Hill Wastewater Treatment Facility in 2000 to enable the plant to provide additional reclaimed water to east Flagstaff customers. The Wildcat Hill Treatment Plant has a capacity of 6 million gallons per day and the Rio de Flag Reclaimed Water Plant has a capacity of 4 million gallons per day. Although the Wildcat Plant actually treats 5 million gallons per day, only 2 million gallons per day can be used as reclaimed water until the additional storage is completed. Pumping and pipeline constraints exist which cause much of the effluent to be discharged into the Rio de Flag.

Figure 1: Annual Water Capacity Vs. Projected Annual Use



The Rio de Flag Plant only operates at about 1.5 million gallons per day due to the quantity of influent it receives. As growth continues on the west side of Flagstaff, the amount of reclaimed water available from the Rio de Flag Plant will increase.

At present, a total of 3.5 million gallons per day of reclaimed water can be produced. The use of effluent water for irrigation is encouraged as a substitute for using potable water supplies and is used as one of the City's water conservation tools. Effluent water use is not as closely correlated to Flagstaff's growth as population because of the restrictions placed on its use by the Department of Environmental Quality. Currently it is not allowed for residential irrigation due to the regulations that make enforcement difficult.

Analysis of Future Growth and Water Requirements

Effluent water is not included in the total available water supply because its use is discretionary. The City can deny use of effluent and require potable water use in its place. Summarizing the total potable water supplies on an annual basis follows:

Upper Lake Mary	855 million gallons per year
Inner Basin	241 million gallons per year
Groundwater	3,554 million gallons per year
Total	4,650 million gallons per year

This assumes that groundwater supplies will not diminish. Figure No. 1 above projects future water demand for the next twenty years (2001-2020) and existing water production capacity based on the previous total. Water availability and demand are shown in acre/feet. Demand is based on population projections by the Arizona Department of Economic Security (ADES) and average per capita water use in Flagstaff for the years 1997, 1998, and 1999. The average per capita water use for those years was 122 gallons per capita using ADES population.

- It can be seen that Flagstaff's existing water production is 14,270 acre/feet based on the previous analyses. Water demand is projected to be 11,000 acre/feet by the year 2020. This analysis does not mean that Flagstaff should stop developing its water resources. Wells decrease in capacity as they get old and reliability is reduced. This analysis does not take into account the need to meet peak summertime water demand, which is normally double the average winter demand. Pumping capacity and storage must be in place to meet these seasonal demands.

Existing Flagstaff Water Situation

The average daily water use in Flagstaff for 1998 was 7.2 million gallons per day. The peak use was 12.9 million gallons per day.

The City's water production capacity can vary with the climate. The following displays the best case and the worst case. Numerous combinations exist between these two cases.

Best Case—Wet Year	
Surface Water	
Lake Mary	8.0 mgd
Inner Basin	2.5 mgd
Well Water	
Lake Mary Wellfield	4.3 mgd
Woody Mt. Wellfield	5.6 mgd
Local Wells	.9 mgd
Total Wet Year	**27.3 mgd**

Worst Case—Dry Year	
Surface Water	0.0mgd
Well Water	
Lake Mary Wellfield	4.3 mgd
Woody Mt. Wellfield	5.6 mgd
Local Wells	.9 mgd
Adjustment for one well down for repair	- 0.7 mgd
Total Dry Year	**10.1 mgd**

During a drought only 10.8 million gallons per day would be available, providing all wells were operational. Usually one or two wells are not operational due to maintenance.

The Woody Mountain wellfield figures assume the equipping of the recently drilled Woody Mt. No. 11 Well. The figures for the local wells assume that the predicted quality and quantities of water will be available based on the preliminary tests of the wells. These amounts have not

been proven over a period of extended pumping. Each year, a review of the water supply operations includes a reserve of lake water to meet the peak demand in case of a drought. A drought of greater than 3 years would stress the supply.

Of the five sources of water supply for Flagstaff, groundwater from the Coconino and Supai Aquifers is the most dependable, while surface water is the least dependable. Surface water, in Upper Lake Mary, comes from a 55-square-mile watershed on US Forest Property. The amount of inflow into the lake each year depends on the temperatures and amount of snowpack received each winter. This varies significantly from year to year. Based on values published by the annual report, the 30-year median annual inflow to Upper Lake Mary is 1.9 billion gallons. The lake holds approximately 5 billion gallons and Flagstaff uses approximately 2.5 billion gallons per year. These figures show it will take much more than Lake Mary to satisfy Flagstaff's water needs. In addition to the limited amount, the inflow is sporadic due to variations in winter weather conditions.

The unreliability of annual inflow into Upper Lake Mary is readily apparent. The Inner Basin of the San Francisco Peaks has also been a source of water supply to Flagstaff for many years. This supply is also affected by changes in the winter snowpack and is limited to three diesel-powered wells and a few productive springs. This leaves groundwater as the potential source of water supply for Flagstaff's future.

How much groundwater is available and where is it best accessed are questions that have been asked for years. The Woody Mountain wellfield has provided water for Flagstaff since 1954. Today, ten production wells exist (Woody Mountain No. 11 being one of them, which has not been equipped) with a production capacity of 5.6 million gallons per day. The Lake Mary wellfield has provided water to Flagstaff since 1962. Five production wells exist in the Lake Mary wellfield with a production capacity of 4.3 million gallons per day. Attempts to drill more wells in the area immediately adjacent to the Lake Mary wellfield have brought on fears from county residents of the city drawing down their wells by further wellfield development. The wellfield has been limited to an average of 2.4 million gallons a day on an annual basis since 1992 due to fears of over pumping the aquifer. Wells and data are being monitored to determine the actual wellfield yield.

In an effort to develop a long-range planning tool, the City entered into an agreement with the United States Geological Survey (USGS) in 1995 to take a close look at groundwater resources that may be available to Flagstaff. The work being done by the USGS is expected to take four years and will involve joint cost sharing between the two agencies. The City, which has the most to gain from the work, will be paying approximately $500,000 over the four year period while the USGS will be incurring approximately $170,000 of the project's cost.

Some of the most recently introduced high tech methods for groundwater evaluation are available to the USGS including satellite aerial photography, ground penetrating radar, square-array resistivity, and borehole logging. Geochemical sampling and analysis is being conducted as a part of the project for determinations of age and routes of groundwater flow.

The amount of groundwater available under Flagstaff is known to be great. The problem for the City is determining where it can best be accessed. This is no easy chore when it is located approximately 2,000 feet underground. The results of the USGS work are anticipated to answer many of the questions that have been asked about Flagstaff's water supply for many years, such as how much is there, where is it, where is it coming from, and where is it going.

A long-term drought of greater that 3 years would threaten Flagstaff's water supply. A continual program to solve this concern includes (listed in highest probability of significance):

1. The search and funding for additional groundwater wells. The USGS information hopefully will locate sites for an additional 6 to 8 wells before 2020. Funding in the current Capital Improvement Plan (CIP) provides for two wells before 2010.

2. Expansion of the reclaimed water irrigation system and promoting high usage customers to use reclaimed water for nonpotable use.
3. Expansion and continued funding of the water conservation program.
4. Feasibility studies that are currently being conducted to assess the possibility of building pipelines from water sources such as Lake Powell and/or Clear Creek.
5. Water repurification. This has been proposed, but public perception would have to change before this would become feasible.

The City needs to continue to pursue additional water supplies to serve the current population during extreme droughts and to provide supplies for any future growth. In the last 40 years, there has been water available from the lake and the Inner Basin even during the driest years, but the probability does exist that these sources could dry up. Six additional wells could expand the well production to (10.8 + 4.2) = 15 mgd or close to the 17.8 mgd peak demand projected.

The City has had a water conservation program in place since the mid-1980s. Administered by a staff committee, programs such as the low-flow toilet rebates, public information, “on-hold” telephone recordings, public service announcements, home show booths, and elementary school puppet shows have been put into place. These types of programs are popular with the public and serve to instill a water conservation mind set, although their actual effect on water usage is not great.

The greatest effect on water usage is rates. In 1990 the City’s water rate schedule was restructured to use an inverted block rate structure whereby the more water the customer uses, the higher the rate is. This new rate structure along with the reclaimed water system have provided the City with the greatest water conservation impact.

Water Distribution System

Another significant feature of the City water system is its storage capacity. Total water storage capacity is 22.9 million gallons, broken down as follows:

- Zone A - 3.7 million gallons
- Zone B - 17 million gallons
- Kinlani Subdivision - .2 million gallons
- University Highlands - .5 million gallons
- Lake Mary Plant Clearwell - 1.5 million gallons

Zone A water is capable of being transferred by gravity to Zone B. This has proven to be a valuable characteristic of the system during periods of high water usage when low water levels are being experienced in the Christmas Tree Reservoir on the east side of town. This would indicate an advantage for siting future storage in Zone A because of the flexibility it provides to the water system operators.

The condition of the water distribution system is poor in three areas of Flagstaff, the downtown area (both north and south side), Sunnyside, and the old O’Neil Springs line to Ft. Tuthill and the surrounding area. The condition is mainly due to old undersized water lines that are slowly being replaced under the utility’s capital improvement program. It will still take thirty or more years to replace all the old undersized lines at the current pace. The undersized lines do not pose a health and safety problem, and as new development occurs, the developers are being required to make necessary upgrades. Water lines that fall into the undersized category include those with diameters less than 6 inches.

Transmission mains are the major components of the distribution system. Recently completed in 1991, a 30-inch diameter pipeline was built from the Lake Mary Raw Water Pump Station through town to the intersection of Butler and Enterprise. From there, the transmission main reduces to 24-inch and 18-inch and continues to the Christmas Tree Reservoir located in the forest north of the Christmas Tree Subdivision. This project took five years to build and provides the capability of pumping water from the south of Flagstaff through town to the northeast part of the city. It should be noted that the location of major transmission lines is mostly limited to presently developed areas such as Woodlands Village and Route 66. A 16-inch transmission main does pass through the undeveloped parts of Sections 4 and 10 (Range 7E) and a 27-inch transmission main from the Lake Mary Water Treatment Plant runs through Sections 22 and 27 (Range 7E).

If the local wells in Foxglenn and Continental provide a good quality and reliable water supply, these wells will reinforce the distribution system on the east side of Flagstaff. There is some hope that this could turn into a new wellfield for Flagstaff, which would add water supplies and change the hydraulics of the distribution system. Since the wells are very deep, they are expensive to construct and to operate. The two new wells are currently being equipped, and as the wells operate, data will be obtained on the validity of this exploratory wellfield.

Level of Service Standards

1. Provide a sufficient degree of reliability for raw water, treated water, and an efficient transmission/distribution system capacity to meet the demands of the population 24 hours per day.
2. Use capacity fees as possible revenue for water rights acquisition, raw/treated water storage, treatment plant improvements/expansions and construction of water mains.
3. The following is standard water main design criteria for the City of Flagstaff:
    a. The water mains and looping must be designed to provide a minimum residual pressure of 20 pounds per square inch at a second floor showerhead. To obtain this pressure at the showerhead, a minimum static pressure of 40 pounds per square inch is required.
    b. Systems must be looped to provide redundancy and must be designed in accordance with engineering bulletins produced by the Arizona Department of Environmental Quality.
    c. No public water main shall be less than 8 inches in diameter, except upon approval of the city Fire, Utilities, and Engineering Departments.
    d. Dead-end mains shall be avoided wherever possible to maintain water quality.
    e. Valves shall be located a maximum of 500 feet apart in commercial/industrial areas and 800 feet apart in residential areas to facilitate repair work.
    f. Water mains shall be laid horizontally a minimum of 6 feet and vertically a minimum of 2 feet above any sewer or reclaimed water line.
    g. The minimum depth of cover for water mains shall be 3 feet from the top of pipe to final grade of the surface.
    h. The type and size of pipe to be installed shall be determined by the water utility and shall be based upon existing and future design flows, pressures, site conditions, and maintenance requirements.
    i. All public hydrant installations must be on dedicated easements or public rights-of-way and must be maintained by the utility and connected directly to mains owned and maintained by the City of Flagstaff.
    j. A cross connection control program shall be enforced to protect the potable water supply system from contaminants caused by back siphonage or back pressure.

k. Water mains shall be placed in the public right-of-way or dedicated easement, which shall have sufficient width to allow for the safe installation of the pipe and the continued maintenance of the pipe.
l. Require all new urban development to connect to the City water system.
m. All water systems shall be designed to deliver water to fire hydrants at a minimum rate of 1000 gpm for one and two family residences and 1500 gpm for commercial occupancies.
n. Fire hydrant spacing shall be no greater than 500 feet for one- and two-family subdivisions and 300 feet for commercial areas. Fire hydrants are to be within 300 feet of a commercial building.

Future Flagstaff Water Situation

The US Geological Survey (USGS) recently completed a joint study with the City of Flagstaff that looked at groundwater availability in the Flagstaff area. A 1200-square-mile area surrounding Flagstaff was studied; the boundaries being the San Francisco Peaks to the north, the community of Parks to the west, Winona to the east, and the Mogollon Rim to the south. This area receives 230,000 acre/feet of groundwater recharge annually.

Current annual usage of groundwater in the area is as follows:

- Flagstaff—6,000 acre/feet/year
- Others—5,000 acre/feet/year

The question arises, where does the rest of the groundwater go? It is speculated that after hundreds of years the remaining water transforms into surface water at Blue Springs and eventually flows into the Colorado River. Blue Springs has been said to flow as much as 162,000 acre/feet/year. The USGS reports that groundwater levels in Flagstaff have actually increased a small amount over the past years. This makes sense because the recharge is 230,000 acre/feet and only 173,000 acre/feet are being removed. This would imply that 57,000 acre/feet of water per year is available in the study area without affecting Blue Springs.

Flagstaff is projected to use 27,000 acre/feet/year of water by the year 2099. This is based on historical rates of annual use since 1949. The average water availability from Lake Mary since 1970 has been 3,100 acre/feet/year. Existing capacity of Flagstaff's wells, including the Inner Basin, is 16,000 acre/feet/year. Flagstaff will need to develop 8,000 acre/feet of additional groundwater resources to meet the annual demand. There is a peaking factor of 2, so in order to meet maximum summer demands, Flagstaff will need to develop enough wells so that 148 acre/feet (27,000/365 * 2) or 48 million gallons per day can be pumped, or else provide additional storage that can be used to meet peak demands.

If the growth rate increases in the future, Flagstaff will require additional water. For example, if the years 1983 through 1989 are used to project water use (these years had an exceptionally high rate of increase each year—8% annually), Flagstaff will need 75,000 acre/feet/year of water by the year 2099. In this case, Flagstaff would have to develop an additional 56,000 acre/feet of water supply during the next 100 years.

Projected Water System Needs

In the growth areas identified, water service would be provided as follows:

The land area on McMillan Mesa needing water service will require that two water lines (parallel lines) be extended from the area by the tank at Buffalo Park. A 16-inch (Zone A) transmission water main exists at this location. The transmission main links the Cheshire

Tank and the Paradise Tank, so tapping this main would satisfy the City's requirement of providing water service from two separate sources to meet emergency conditions. The Zone A water source will be required because of the land elevations of the mesa. If some private land on the Mesa is acquired as open space, then finding alternative means of water service delivery may be desirable to avoid not only the cost, but also the environmental disturbance, of extending water mains across large tracts of open space. For example, it may be possible to use a booster station to increase the pressure of the existing Zone B water in Ponderosa Parkway to serve development areas near the south end of the Mesa.

The area by Dairy Ranch Road (West Side) would be serviced by the new pressure zone recently constructed with the Railroad Springs Subdivision.

The expansion of the Brannen Homes area would be serviced by a distribution system water line in Lonetree Road. This is currently scheduled as a Capital Improvement Program project in 2003. The water system is currently being upgraded in this area by the construction of the county jail facility and the Woods at Clear Creek Subdivision. Brannen Homes and Woods at Clear Creek are currently serviced by one line, due to backflow preventers in the NAU system. With the new development in the area (county jail, Woods at Clear Creek, and Coconino Community College), this problem will be solved.

The Canyon del Rio development would require a water line in Butler Avenue. The main currently exists near Little America, but also could be extended from the Foxglenn area. Canyon del Rio for the most part falls into Zone C. A pressure reducing station would feed this area from both Little America and Foxglenn.

The other areas identified are close to primary transmission mains or are already planned for. The current policy is to have new developments provide a water and sewer impact study for their particular system loading. The existing capacity of the system is given to a development on a first come, first serve basis. The developer can choose to wait until the City funds system upgrades through the normal Capital Improvement Program (CIP) or can build the improvements, extensions, or capacity needed for a specific development. The City annually updates the 10-year CIP, addressing funding availability and priority of system needs.

City Wastewater System

The City of Flagstaff wastewater system is made up of a wastewater treatment plant, a wastewater reclamation plant, and the wastewater collection system. The City has two facilities that will treat 10 million gpd of wastewater. The Wildcat Hill Wastewater Treatment Plant has a design capacity of 6 million gpd and the Rio de Flag Wastewater Reclamation Plant has a design capacity of 4 million gpd. The City should have adequate capacity to handle the flows to the year 2020 at the current usage projected. Additional solids treatment will be required.

Anticipated Wastewater Generation (2020)

From the City's 1997 Utilities Annual Report Update, sewage generation in 1997 data was at 100 gpcd, and this rate is expected to remain consistent in the future. Therefore, 2020 sewage generation would be:

84,000 (2020 population) X 100 gallons/day = 8.4 mgd

Wastewater Collection System

The City's entire wastewater collection system operates by gravity flow. However, some facilities are too low to utilize gravity flow. Those facilities have been required to build and maintain their own pumping systems. Generally, the Urban Service Boundary, currently a component of the City's general plan*, Growth Management Guide 2000*, includes only those areas where the collection system can utilize gravity flow, although some sub-basins may require lift stations.

Bottlenecks in the City's sewer system that restrict growth have been identified over recent years and are gradually being upgraded. The completion of the Ellery/Ashurst sewer project in 1996 opened up sewer capacity for development of properties in the drainage basin along Route 66 west of Milton Road. Construction of the Sinclair Wash sewer in 1995 by private development has provided adequate pipeline capacity for the full buildout of Woodlands Village. Private development is also planning to upgrade the Bow and Arrow phase 2 sewer that will allow buildout of the Ponderosa Trails development and the airpark.

Undersized collection mains still exist in the downtown area and Sunnyside even though the city has been trying to upgrade them on an annual basis. The utility's long-range Capital Improvement Program identifies sewer mains in these areas for replacement annually. But just as with the water lines, it will take many years to get the areas upgraded to present standards because the locations of Flagstaff's sewer interceptors, laterals, and collection lines are mainly in existing developed areas. Sections 4 and 27 (Range 7E) are exceptions.

Infiltration into the City sewer system has presented a problem in the form of sewer overflows during times of high precipitation when high flows exist in the Rio de Flag. Overflows have occurred in the Continental area along Country Club Drive, through the golf course, and in the Rio de Flag behind the East Side Flagstaff Athletic Club. Reasons for these overflows are leakage into the collection system, vandalism, and flat slopes in the sewer between Country Club and the Wildcat Hill Wastewater Plant. Much of the interceptor system has been replaced over recent years in an attempt to resolve the leakage problem, and sewer manholes have been raised above flood levels in the Country Club Drive area to prevent surface water from entering the collection system. The flat slope problem located in Section 8 (Range 8E) will eventually have to be resolved with the construction of a sewage pump station. The Rio de Flag Wastewater Treatment Plant has also provided an improvement to the City collection system by intercepting flow between the west side and east side of the city. This has taken a significant load off the east side collection system.

By far, the majority of the water and sewer line replacements identified in the City's Capital Improvement Program are undersized lines in older subdivisions. Developers are required to provide upgrades to water and sewer lines that are impacted by their development, or wait for the City to modify its Capital Improvement Program and set aside the necessary funding. The planning priority for the utility is to upgrade existing inadequate infrastructure and not to speculate on future growth areas. In most cases, the developers prefer to proceed with any necessary upgrades to avoid project delay.

With a few exceptions, all City utility customers are hooked up to the City sewer system. A few homes exist using on-site sewer disposal systems. On-site sewage disposal systems do not have a reputation of working well in the Flagstaff area because of the geological conditions, and new development within the city is required to tie into the City sewer system by making whatever extensions may be required.

Level of Service Standards

1. Provide full-time personnel Monday through Friday at the wastewater treatment plants to assure treatment quality, monitor equipment, and make emergency repairs on equipment and facilities.
2. Have treatment plant capacity with planned expansion capable of serving projected population of the service area.
3. Design present collection system for present and future growth.
4. Have revenue sources that are guaranteed so that revenues are available for wastewater related materials, projects, equipment, facilities, and personnel.
5. Use capacity fees as possible revenue for construction of sanitary sewer mains and wastewater treatment plant improvement or expansion.
6. The following are standards for sanitary sewer design criteria for the City of Flagstaff:
    a. Sanitary sewer mains shall be a minimum size of eight (8) inches in diameter except upon approval of the wastewater provider.
    b. Sanitary sewers will be designed to convey the peak daily flow of the ultimate density of the entire drainage area, or, in some cases, by future extensions of the system.
    c. The type of pipe to be installed shall be determined by the wastewater provider and shall be based on design flows, site conditions, and maintenance requirements.
    d. Sanitary sewers shall not be connected to roof drains, foundation or sump pump drains, or any surface water drainage facility.
    e. Sanitary sewers shall be placed in the public right-of-way or dedicated easement, which shall have sufficient width to allow for the safe installation and continued maintenance of the pipe.
    f. Lift stations (pumps) and inverted siphons are discouraged and will not be permitted without the approval of the wastewater provider.
    g. Require all new urban development to connect to the central sewer system.
    h. Manholes are to be installed at the end of each line; at all changes in grade, size, or alignment; at all intersections; and at distances not greater than 400 feet for sewers 12 inches or less, and 500 feet for sewers greater than 12 inches.

Projected Wastewater System Needs

In growth areas identified, sewer service would be provided as follows:

- The West Side area (upstream of Railroad Springs) currently has an additional capacity beyond proposed development of 0.8 cfs or a population equivalent of 2,200 persons. This would be available on a first come, first serve basis. Additional capacity could be gained if the 10-inch portion of the trunk sewer were replaced or paralleled. This would increase the capacity to a population equivalent of 5,600. The next expansion would be the increase in the 15-inch portion of the sewer main, which would increase the capacity to a level at which the 18–inch portion would be the next limiting segment, and so forth. The current policy is to have the proposed developments provide this upsizing or wait for the capital improvement priorities and funding.
- Other identified growth areas appear to have adequate capacities but sewer and water impact studies would be required when better information is available on the amount of flow generated from each particular area. The sewer east of the East Flagstaff Athletic Club is an area which is planned to be paralleled in CIP 2001. This sewer has concerned the City because of the flat grades and the inflow of storm water.

Funding is included in the CIP for expansion of the solids treatment in 2005, and additional treatment expansion in 2007–2009 because of the uncertainty of regulations and the increased demands that could be placed on the treatment processes.

Reclaimed Water Treatment and Distribution System Capacity

The 1990 Water and Sewer Bond program provided funding for the construction of a 4 mgd wastewater reclamation plant and reclaimed water distribution system on the west side of the city. The project was completed in 1993, and 1994 was the first full year of reclaimed water usage from the new facilities**.** The primary use of the reclaimed water has been irrigation in order to limit irrigation demands on the water distribution system. A number of major facilities are utilizing the system currently, including two golf courses, City parks, public schools, and Northern Arizona University. While the system has no industrial users at the present time, the quality of the reclaimed wastewater is adequate to permit use by many industries.

The reclaimed water system has been extended through Sunnyside, which will make reclaimed water available to Mt. Elden Middle School, Weitzel Elementary School, Ponderosa Park, Killip Elementary School, Bushmaster Park, and Thomas School. Reclaimed water will play a significant role in the City's future water resources. Currently there are approximately 3 mgd of reclaimed water that is not being utilized, and using it for irrigation could greatly help the City meet its peak summertime demand days. Reclaimed water line extensions are much less costly than drilling water wells and provide a comparable benefit.

The current capacity of the distribution system from the Wildcat Hill Wastewater Plant is limited to 1.6 million gallons per day. During peak demand days, operational changes to this system allow it to be pushed to 2 million gallons. Storage is being planned at the plant in CIP 2001, which will increase this capacity to 2 million gallons without making the operational changes. The distribution system would have to be modified at a great expense to increase this system capacity beyond 2 million gallons.

The Rio de Flag Wastewater Reclamation Plant is limited by the amount of flow that passes in the sewer. The current sewage volume is estimated at 55% of the total average flow (5.42 mgd) or approximately 3 mgd. The distribution system and the plant have the capacity to supply in excess of 4 mgd. Storage may be a limitation depending on the time of day and the amount of individual irrigator storage.

Rural Water

Areas outside the City of Flagstaff are served by individual wells and small community systems including Bellemont Water Company, Kachina Village Improvement District, Ponderosa Utility Company, Forest Highlands Water Company, Flagstaff Ranch Water Company, and Doney Park Water. Generally, the fractured geologic matrix does not yield wells with any reasonable production except at depths exceeding 1,500 feet. While some areas like Fort Valley can utilize individual wells as a source of water, most homeowners have to haul water since productive aquifers are very deep.

Future water service in the county is likely to continue to be a combination of individual wells, hauled water, small community systems, and small shared well systems. The County subdivision ordinance requires that any subdivisions with lot sizes of under five acres have a community water system, so as certain areas develop outside the boundaries of the existing water companies, it is likely that there will be additional small water systems.

The community systems outside the City of Flagstaff include:

Bellemont Water Company

Bellemont Water Company supplies water to about 500 people via water haulers and several service connections. About 98.5% of the 100,000 gallons supplied per day are hauled by

commercial haulers or residents in the Parks/Bellemont area. Bellemont Water Company supplies a number of industrial properties in Bellemont.

Kachina Village Improvement District (KVID)

The KVID supplies water for the community of Kachina Village. The water system includes three wells, three booster stations, four storage reservoirs, and 88,000 feet of water mainlines. The system is divided into two pressure zones. Average daily use is 275,000 gpd and peak use is 384,000 gpd. The maximum production is 388,000 gpd from the three wells. A fourth well was developed in late 1997. Some distribution lines appear to be inadequate for the existing and anticipated growth. In order to improve the system and provide for the anticipated growth in the Kachina Village area, the district adopted a capital improvement program in 1993 that will allow replacement of major existing facilities. The local area plan has chosen a low growth alternative for the area. It is anticipated that the population will grow to 3,120 by 2020 and will result in an increase in the average daily water demand of 139,000 gpd, or about 50%.

Forest Highlands Water Company

Forest Highlands Water Company supplies water to about 820 homesites in an area north and west of Kachina Village and east of US Highway 89A. Approximately 420 homes and one golf course are currently served. An additional golf course and 170 homesites have recently been added. The water system will utilize seven wells with production ranging from 85 to 150 gallons per day per well by the end of 1999. Generally, the occupancy is seasonal. The golf course utilizes 65 million gallons per year. The entire system utilizes approximately 100 million gallons per year. The maximum daily demand is 100,000 gpd.

Ponderosa Utility Company (PUC)

The PUC supplies water for the Mountainaire Subdivision and Old Munds Highway area. The water system includes a well, five storage reservoirs, and a water main. The system is divided into pressure zones. Average daily use is 90,000 gpd. The maximum production is 180,000 gpd from the well. Some distribution lines appear inadequate for the existing and anticipated growth. It is anticipated that the local area population will grow to 1,200 by 2020 and will result in an increase in the average daily water demand of 56,000 gpd or about 62%.

Doney Park Water (DPW)

The DPW supplies water for a large area to the northeast of Flagstaff. The water system includes several wells, a number of storage reservoirs and tanks, and water mains. Water extension to the large lot subdivisions (2.5 to 5 acres) in the area and the depth to water make development in the area expensive. Although water is a limiting factor for development in the area, it is anticipated that the local area population will grow to 8,374 by 2020 and will result in an increase in the average daily water demand of over 40%.

Rural Wastewater

Most of the area outside the city is served by on-site sewage disposal systems. Some small community systems, including Kachina Village Improvement District and Forest Highlands Water Company, provide service to some higher density outlying areas. Many areas, however, are unsuitable for standard septic tank and leach field systems including the Fort Valley area northwest of Flagstaff that has problems with high groundwater, and the Mountainaire Subdivision where there are small lots that do not meet percolation requirements and cannot be developed with conventional on-site sewage disposal systems.

Consequently, treatment of wastewater in the county is also likely to be a combination of methods. The subdivision ordinance allows on-site septic systems for new subdivisions where the overall density is one unit per acre or less. Subdivision or community systems are likely to be developed in areas where the density exceeds one unit per acre or where soil conditions suggest that a community system is more appropriate.

The existing on-site sewage disposal systems in the rural area include:

Kachina Village Improvement District (KVID)

The KVID provides wastewater treatment and collection for Kachina Village. The system includes a wastewater treatment plant built in 1988 and 100,000 feet of sewer main. The local area plan calls for a low growth alternative for the area. It is anticipated that the population will grow to 3,120 by 2020 and will result in an increase in the average daily sewer flow of approximately 50%. The treated effluent is discharged to a constructed wetlands north of Kachina Village.

Forest Highlands Water Company

Forest Highlands Water Company provides sewer service to about 820 homesites in an area north and west of Kachina Village and east of US Highway 89A. Approximately 420 homes and one golf course are currently served. An additional golf course and 170 homesites have recently been added. The system utilizes a reuse facility to irrigate the golf course. All wastewater is currently recycled.

Community Facilities and Services Element

Photo by Marc Gillespie

Table of Contents

Introduction

The provision of adequate public facilities and services and the phasing of infrastructure improvements are important considerations in the timing, location and pattern of development. Several of these public facilities and services are addressed through separate sections of this *Regional Plan* (for example, utilities, transportation, and fire). Other key public providers offer services at various locations throughout the region and are also relevant to the *Regional Plan* and discussed here. These providers often require that certain facility location considerations be responsive to the needs of the community. The providers described in this section include City, County, state, and federal public agencies.

GOAL CFS1

Infrastructure and public services will be provided in an efficient, equitable and effective manner.

Rationale

The availability and phasing of quality infrastructure and public services in the region affects the safety and quality of life for residents and dictates the location, type, and intensity of urban land uses. The dispersed development patterns of the past have hampered the ability of the City and County to provide needed services and facilities to area residents, such as transportation, police, and fire and emergency services. In conjunction with the Urban Growth Boundary policies stated in this *Regional Plan* that identify lands that are currently most appropriate for urban development, coordinated urban capital facility projects should be directed to contiguous urban areas so that public facilities and services can be delivered more effectively. Development must bear its fair share of the cost of additional public services and facilities it needs as a result of new development while giving consideration to the rational nexus provisions to show impacts and direct benefit. At the same time, cooperation between service providers, particularly for fire protection, would improve service and lower costs. Current limitations in statutory authority prevent the County from considering the adequacy or availability of community services and facilities for lot splits, unless a formal subdivision is pursued.

Policies and Strategies

Implementation Matrix Key

In the "Time Frame" column, the first number indicates when the action should be initiated and the second number indicates when it should be completed relative to *Regional Plan* ratification. For example, "0–1" means the action should be initiated as soon as possible and be completed no later than within one year of *Regional Plan* ratification. These time frames are set with the understanding that they are meant as best estimates and may have to be adjusted given the numerous parties involved in implementation of any given strategy.

The following abbreviations are used throughout the matrix:

ADOT Arizona Department of Transportation
CIP Capital improvement Program
FHWA Federal Highway Administration
FMPO Flagstaff Metropolitan Planning Organization
PRA Planning Reserve Area
RGB Rural Growth Boundary
UGB Urban Growth Boundary
USFS United States Forest Service

Policy	*Strategy*	*Responsible Party*	*Time Frame/ Years*
Policy CFS1.1—Determine and Require Adequate Public Facilities and Services The provision of adequate public facilities and services and the phasing of infrastructure improvements shall be important considerations in the timing and location of development.	*Strategy CFS1.1(a)—Adopt Public Facility Standards* Adopt public facility standards as part of ordinances for all facilities and services, including but not limited to fire protection, emergency services, parks, utilities, storm drainage, schools and other public buildings, and transportation. These standards shall define the specified levels of service that are necessary and appropriate to ensure that basic health, safety, and welfare requirements of city and county residents can be met.	City & County	0-3
	Strategy CFS1.1(b)—Annex Urban Lands to the City In order to ensure that adequate public facilities and services can be provided to urban areas, land within the unincorporated areas of the county that are proposed for urban levels of development within the Urban Growth Boundary, with the exception of activity centers in the county, shall be required to consult with the City regarding annexation into the city limits. Failure to reach agreement for annexation will not impact on potential for development within the county.	City & County	Through-out life of *Regional Plan*
	Strategy CFS1.1(c)—Provide Adequate Public Facilities at Time of Development Require that adequate public facilities and services be in place or planned for prior to development, in order to ensure that public facilities and services are available at specified levels of service contemporaneously with new development. Require conformance with standards as a condition of approval for rezoning.	City & County	Through-out life of *Regional Plan*

Policy	*Strategy*	*Responsible Party*	*Time Frame/ Years*
	Strategy CFS1.1(d)—Develop Criteria for Restricting Rezonings to Higher Densities in County Areas In order to determine areas where smaller lot sizes may be appropriate in unincorporated areas, the County shall develop criteria to be used in reviewing rezoning requests. Criteria shall include consideration of the following: 1. Adequate infrastructure should service the proposed development, especially access roads and fire protection. 2. Service providers for water, emergency services, and utilities must agree that they are able to service the proposed development or provide an adequate plan demonstrating provision of water, emergency services and utilities. 3. Proposed rezonings should be in reasonable proximity to existing city limits so as to reduce traffic and other impacts to outlying areas. Waivers of the above criteria shall only be considered when a compelling, beneficial reason exists, such as the protection of natural resources of regional significance or the creation of affordable housing.	County	0-1
	Strategy CFS1.1(e)—Seek State Legislation for Adequate Public Facility Requirements in the County Consider seeking state legislation to authorize comprehensive adequate public facility ordinances. Efforts should be continued to lobby the state legislature to add further restrictions and controls for lot splits in order to address the availability and adequacy of services and facilities.	City & County	0-3
	Strategy CFS1.1(f)—Require Appropriate Levels of Infrastructure for Annexations The City shall require a plan policy, or procedure to provide annexed lands with the appropriate levels of infrastructure and services to serve anticipated new development within ten years after the date when the annexation becomes final.	City	Through-out life of Regional Plan

Policy	*Strategy*	*Responsible Party*	*Time Frame/ Years*
Policy CFS1.2—Development Shall pay its Fair Share Toward the Cost of Additional Public Service Needs Created by new Development, While Giving Consideration to the Rational Nexus Provisions to Show Direct Benefit The short- and long-term fiscal effects of land use and new development require the use of various tools, methodologies and programs to determine the cost of development and to ensure development is paying its fair share and that it has a direct relationship to benefits received by the development and the burdens imposed on the provider.	*Strategy CFS1.2(a)—Pursue All Legal Mechanisms to Finance Necessary Public Services* Consider the impact of the cost of new development and impose financial effects on new developments through such mechanisms as bonding, special taxing districts, user fees, in lieu fees, facility construction, dedication, privatization and others.	City & County	0-2
	Strategy CFS1.2(b)—Implement Fiscal Programs for Development Dedication Standards and Impact Fees Consider adoption of dedication standards, impact fees, and incentives for selected services and facilities to ensure that new development meets the demands it creates. The use of funding techniques and their application will be prioritized based on community needs.	City & County	0-1
	Strategy CFS1.2(c)—Require Appropriate Levels of Infrastructure for Annexations *The City shall require a plan policy, or procedure to provide* annexed *lands with the appropriate levels of infrastructure and services to serve anticipated new development within ten years after the date when the annexation becomes final.*	City	Through-out life of *Regional Plan*
Policy CFS1.3—Encourage Cooperation Between Service Providers Cooperation of urban service providers including the City, County, special districts, private companies, and governmental agencies shall be encouraged, when appropriate, to establish a satisfactory level of quality, quantity, and dependability of services.	*Strategy CFS1.3(a)—Explore Regional Fire Protection* Explore long-term solutions to regional fire protection, such as incorporating the FMPO Boundary as the jurisdictional boundary for a regional system, and utilizing the many partnerships that already exist.	City, County, fire protec-tion districts	1-5
	Strategy CFS1.3(b)—Continue Services at Flagstaff Pulliam Airport The Flagstaff Pulliam Airport shall continue its development as a local service general aviation and commercial airport. The City shall seek to mitigate noise, safety, and other impacts of airport operations while assuring that new development in proximity shall be compatible with existing and planned use of the airport per approved Airport Master Plan's usage and zoning.	City & County	Through-out life of *Regional Plan*

Policy	Strategy	Responsible Party	Time Frame/ Years
	Strategy CFS1.3(c)—Work Cooperatively with Flagstaff Unified School District The City and County shall assist the Flagstaff Unified School District in determining suitable locations for new schools. The City and County shall work with the school district when practical to cooperatively plan for joint facilities and shared use of community facilities.	City, County, Flagstaff Unified School District	Throughout life of *Regional Plan*
Policy CFS1.4—Implement Capital Improvements Program The City and County shall continue to prepare and update a multi-year capital improvements program that is coordinated with the *Regional Plan* policies, inter-governmental agreement, and development location priorities, to direct and prioritize the provision of public facilities and services to urban and rural growth areas and the protection of open spaces.	*Strategy CFS1.4(a)—Adopt Coordinated Capital Improvements Program* Adopt a capital improvements program that is coordinated with *Regional Plan* policies and development location priorities. Target public services to urban and rural growth areas.	City & County	Throughout life of *Regional Plan*

PUBLIC EDUCATION FACILITIES

Flagstaff Area Schools

The Flagstaff Unified School District No. 1

As one of the systems plans, the Public Education Facilities Plan (Map 20) provides vital facilities and services that support the land uses and patterns as projected on the Land Use City and *Regional Plans*.

The Flagstaff Unified School District (FUSD) encompasses approximately 4,400 square miles that includes the City of Flagstaff and extends northeast to Gray Mountain, south past Stoneman Lake, east past Sunset Crater, and west to Bellemont. The district maintains and operates 12 elementary schools, 2 middle schools, 3 high schools, and one alternative school. One school in the Flagstaff Metropolitan Planning Organization (FMPO), Cromer Elementary School, is outside of the city limits. Leupp Elementary and Middle Schools are outside the FMPO.

Student enrollment has been fluctuating slightly in Flagstaff since the mid-1990s with some years showing minor increases and others decreases. The decreases range from 1.1% in 1999–2000 to 2.5% in 1997–98. A modest increase of 0.5% was shown in 1998–99. The decline in enrollment has been attributed to the fact that general population growth from 1990–1995 occurred in families with head of household age 45 and above.

Table 12: Public Schools

Elementary Schools	Total Capacity
Christensen	620
Cromer (outside city limits)	805
DeMiguel	805
Killip	560
Kinsey	652
Knoles	652
Marshall	680
Sechrist	652
South Beaver	265
Thomas	524
Weitzel	578
Subtotal	**6,793**

Middle Schools	
Flagstaff	900
Mt. Elden	1,100
Subtotal	**2,000**

High Schools	
Coconino	1,600
Flagstaff	1,600
Sinagua	1,200
Subtotal	**4,400**

Although overall district enrollment figures are down slightly, some schools are experiencing growth. The district currently has no plans to construct any new schools but is watching the enrollment on the West Side. Additionally, some consideration has been given to acquiring property near Doney Park for a middle school. Additionally, the district may review and revise school boundaries to alleviate overcrowding.

Northern Arizona State University (NAU)

Northern Arizona University is a comprehensive public university located in the heart of Flagstaff. NAU, governed by the Arizona Board of Regents, comprises 730 acres at its Flagstaff campus. Approximately 384 acres are fully developed with the remainder, undeveloped, in primarily ponderosa pine. Interstate Highway 40 traverses the southern portion of campus and physically separates approximately 220 of the acres.

At the Flagstaff campus, the total number of students (head count) rose from 14,241 in 1990 to 14,675 in 1998. Statewide programs at rural campuses have increased from 2,753 to 5,265 during the same time period. Although the school has no immediate plans for expansion into undeveloped areas, a partnership with Coconino Community College has led to dedication of 40 acres for a new college campus. An infill strategy continues to dominate the plans for any new facilities.

Coconino County Community College

Coconino County Community College is a multi-campus institution with an enrollment of approximately 3,500 students per semester countywide. The Flagstaff campus, known as the Flagstaff Fourth Street Campus, is the college's main downtown campus at 52,000 square feet. Approximately 2,600 students attend classes each semester in Flagstaff. There is also a 15,000

square foot facility in Page. The college currently supports a commuting student population and is not intended to become a residential facility or to develop athletic programs.

A master plan for the college was developed in 1997 that proposes a new campus for the college in Flagstaff. The new campus would be located and leased on property owned by Northern Arizona University, south of NAU adjacent to Interstate 40. Phase 1 development is a single structure with 125,000 gross square feet designed to accommodate a full-time student equivalent of 1,300 and a total head count of 4,000.

Private and Charter Schools

There are 10 elementary, 4 elementary/middle, and 3 high school level private and charter schools in the Flagstaff area. Charter schools are public schools that are not part of the FUSD but are funded by the state. The emergence of charter schools has also contributed to the drop in FUSD enrollment. In 1999, there was reported to be 1,100 students in grades K–12 in the 7 Flagstaff charter schools. By comparison, there are about 11,000 students in the Flagstaff Unified School District. The continued growth of charter schools in the Flagstaff area mirrors a statewide trend: between 1996 and 1998, the state's charter school student population doubled.

FLAGSTAFF PULLIAM AIRPORT

The Flagstaff Pulliam Airport is located approximately four miles south of downtown and serves the city and surrounding residential and resort communities. The airport property occupies approximately 670 acres, which is mostly used for aviation and support facilities. The airport has a single, hard surface runway approximately 7,000 feet in length and offers commercial and general air service. The airport will impact the future development of areas in the region that are within the Airport Noise Sensitive Zone, which is defined as all areas within the 60 Ldn noise contour established in the *1991 Pulliam Airport Master Plan.* The *Growth Management Guide 2000* discourages further residential development within the Airport Noise Sensitive Zone in the interest of protecting the airport and the general public.

The growth of Flagstaff and the region is expected to continue to drive an increase of air traffic demand and quantity. Flagstaff is the only regional commercial airport in northern Arizona and will generate increased passenger demand proportionate to population growth. The growth in air traffic will necessitate connections to all forms of multi-modal transportation.

The Flagstaff Airport master plan was developed to meet the predicted air transportation needs of the northern Arizona region for a 20-year period. A new master plan, including a Federal Air Regulations Part 150 study (noise attenuation), should be undertaken shortly and completed within the next two to three years. It is expected that the scope of the new master plan will include a runway extension, a second runway and appurtenant taxiway system, and the design of another industrial business park adjacent to City property to the southeast.

PUBLIC SERVICES AND FACILITIES

Cinder Lake Landfill

The Cinder Lake Landfill is an approved municipal solid waste landfill providing disposal services to the City of Flagstaff and Coconino County. The City has operated the landfill since the late 1960s under a special use permit from the U.S. Forest Service. In March 1999, the City completed a seven-year process with the Forest Service to purchase the landfill property plus an additional 168 acres for a lateral expansion of the facility. The total purchase was 343 acres.

By purchasing the existing landfill and the lateral expansion property, the landfill is expected to have a useful life of fifty years. With the implementation of a full-scale recycling program, the life expectancy of the facility is extended to eighty years. Federal and state regulations are making it extremely difficult to site new landfill facilities, therefore, it becomes a top priority to extend the useful life of the existing facility as long as possible.

The City also operates an inert material landfill, located on Woody Mountain Road, south of West Route 66. It is operated by the City through a conditional use permit from the U.S. Forest Service to provide an alternative disposal site for inert material.

Materials Recovery Facility (MRF)

The MRF, located at 1800 Butler Avenue, was built in 1998 through a public-private partnership between the City of Flagstaff and Norton Environmental Inc., to bring a full-scale recycling program to Flagstaff and throughout Coconino County. The facility is 30,000 square feet and utilizes a mixture of manual and automated sorting stations. The facility was designed to handle 80 tons per day with two shifts.

Curbside recycling began in Flagstaff in 1998, and in its first year, more than 5,150 tons (or 10,300,000 pounds) of recyclable materials were collected. Much of the program's success is due to its convenient and simple nature. The City provides indoor containers and curbside cans in which participants can place their recyclables without separating them. Materials to be recycled include aluminum, steel, newspapers, office paper, cardboard, magazines, boxboard, and number 1 and 2 plastics. Curbside dumpsters are emptied by a collection truck once a week. This service is provided to residents and businesses alike.

Flagstaff Coconino County Public Library

There is one major library within the City of Flagstaff, the Flagstaff Coconino County Public Library. This is located in the downtown area. The library has a collection of approximately 200,000 volumes and subscribes to 490 periodicals. Over the last several years, circulation rates at the library have increased an average of 10 percent each year. In addition to increased circulation and an ever-expanding collection, the library is also growing electronically. There are numerous electronic resources for library users, including four Internet stations.

The library provides a branch facility, the East Flagstaff Community Library located at the Mt. Elden Middle School; a library at the Coconino County Correctional Facility; as well as two bookmobiles. The PALS (Preschoolers Acquiring Literacy Skills) bookmobile visits local schools to encourage the development of reading skills in preschool children. The County bookmobile provides library services and materials to many rural communities throughout Northern Arizona.

U.S. Forest Service – Coconino National Forest (Main Facilities)

The Greater Flagstaff Area lies entirely within the 1.8 million acres of the Coconino National Forest, the largest ponderosa pine forest in North America. The U.S. Forest Service operates three main facilities within the City of Flagstaff and four others outside the region.

The Supervisor’s Office, located in the east side of the city, is where many of the administrative and management activities take place. The two other facilities are the Peaks Ranger Station, located on north Highway 89, and the Mormon Lake Ranger Station, located on Lake Mary Road. Both ranger stations are major points of public contact. These two facilities are places where the public may obtain their firewood, Christmas tree, and camping permits, as well as

obtain information about the Coconino National Forest. The two offices together respond to 10,000 visitors and an additional 30,000 phone calls annually.

Plans are being discussed for the relocation of the Supervisor's Office and its consolidation with the Grand Canyon National Park Service somewhere in the Greater Flagstaff Area within the next two to three years.

National Park Service Flagstaff Area Parks

Wupatki, Sunset Crater Volcano, and Walnut Canyon National Monuments are located near Flagstaff in Coconino County in a landscape of expansive high deserts, canyons, mountains, mesas, and remnants of volcanic activity. Sunset and Walnut Canyon are located within the FMPO boundary. These monuments are managed together, with a single budget allocation, as the Flagstaff Area Parks, with administrative functions carried out from a National Park Service headquarters located in Flagstaff. The three monuments include 40,000 acres, 3,000 archeological sites, three visitor centers, and four residential areas.

The Flagstaff Areas national monuments preserve, protect, and interpret for ethnographic, scientific, and educational purposes, the dwellings, artifacts, and other evidence of pre-historic and historic occupation; the geologic formations created by the region's most recent volcanic activity; and the landscapes, flora, and fauna which still reflect these human and natural influences.

Sunset Crater Volcano National Monument (3,040 acres) was established in 1930 to preserve certain geologic formations on lands within the Coconino National Forest which are of scientific and public interest. Walnut Canyon National Monument was established in 1915 to preserve certain pre-historic ruins of ancient cliff dwellings which are of great ethnologic, scientific, and educational interest as relics of a vanished people. Boundary expansions in 1997 added 1,332 acres to Walnut Canyon (total 3,541 acres), which has had an increase in visitation of 80% since 1982. Annual visitation to the Sunset Crater Monument is approximately 280,000, and visitation to Walnut Canyon is about 165,000.

A new Flagstaff headquarters facility was built in January 1998 on north Highway 89. This office provides regional and multi-agency information and interpretation for the public. It also serves as a remote fee collection location for Grand Canyon National Park and Glen Canyon National Recreation Area.

Public Safety Element

Introduction

This chapter focuses on the Fire Protection and public safety systems plan. As one of the systems plan, it provides a vital facility and service that supports the land uses and patterns as projected on the Land Use City and *Regional Plan* maps. For more detail and information for the level and type of service that will be provided based on standards for the systems plans, refer to the master plans listed under Area and Master Plan List.

Goals and policies for the Public Safety Element are contained in the Community Facilities and Services Element.

Fire Protection System

Structural and wildland fire protection services are provided to various areas of the Flagstaff Metropolitan Planning Organization area by a municipal fire department and four fire districts (see Map 19: Regional Fire Protection Plan – Districts and Stations). The Coconino National Forest and Arizona State Land Department provide wildfire protection resources to federal and state land within the Flagstaff Metropolitan Planning Organization (FMPO) based on availability of resources. Some county areas have no dedicated fire protection services. The issues pertaining to fire protection within the FMPO are:

1. The existence of multiple fire agencies—Flagstaff, and Summit (Doney Park and Timberline-Fernwood), Highlands, and Parks/Bellemont—which are politically independent of one another. Each agency is limited in its ability to respond to emergencies due to resource limitations. No district plan for the region exists today.
2. There are other fire districts that do not have any resources (Mountain Dell, Pine Del, Westwood, Mt. Elden, and Fort Valley/Baderville).
3. There is a lot of unincorporated property outside of municipal and fire district boundaries (county areas) that does not have fire protection services.
4. A general lack of understanding about what constitutes effective fire services. Areas of current or potential development, in the county and in all fire districts, may not have water distribution systems that can supply standards for volume, pressure or duration (fire flow). Limited fire flow is being provided by water tenders (vehicles).
5. Some areas in the region are deficient because of the lack of basic fire protection services. Portions of the county in all fire districts do not have water distribution systems that can supply adequate volume, pressure, or duration. Water tenders (vehicles) are providing fire flow in these areas.
6. The highest fire protection concern to the fire districts and their responding agencies are wildland fires that may threaten the communities and the forests of the Greater Flagstaff Area.

The current situation is less than desirable and a long-term solution should be explored. The current paradigm of “fire protection equals facilities” is inadequate. Instead, what should be pursued is a system design based on performance standards as indicated below.

Levels of Service Standards for City of Flagstaff

1. To effectively control a typical fire at the scene of an emergency, the Flagstaff Fire Department's standard, which is an "urban" standard, is 16 firefighters. This number is necessary to ensure all fire ground tasks are accomplished by working teams, functioning safely and in concert with incident objectives.
2. The Flagstaff Fire Department's standard for pieces of equipment (pumpers, ladder trucks, water tenders, etc.) needed for a typical fire is 5 (plus an incident commander).
3. The time frames required to assemble these resources and achieve fire control within acceptable levels of risk (or amount of tolerable property loss) are 5 minutes for the first pumper, 7 minutes for the first ladder truck, and 10 minutes for the balance of the assignment. These times include a 2 minute dispatch and turnout time. Using 30 mph as an average response speed (given that topography, weather, congestion, and other factors may limit speeds), times can be converted to distances. Therefore, Flagstaff fire stations are designed to be approximately 3 miles apart, but more importantly the areas they serve are "covered" (protected) within the time limits of the performance standards. All City of Flagstaff fire stations serve property throughout the municipal limits.
4. Three conditions exist: Urban, suburban, and rural. Urban standards have been identified by the Flagstaff Fire Department. Suburban and rural standards have yet to be identified by district fire departments. Urban and municipal/suburban standards are:

Table 13: Fire Response Standards

Arrival Of	Time After Dispatch/Turnout	Travel Distance
1. First due engine	Within 3 minutes	1.5 miles
2. First due truck	Within 5 minutes	2.5 miles
3. Balance of assignment (all 6 responding vehicles)	Within 8 minutes	4.0 miles

Fire Protection in the Unincorporated Area of the Flagstaff Metropolitan Planning Organization

Regionalization of fire agencies in the Greater Flagstaff Area is in its infancy. There is currently no formal operational plan or long-range planning in place. Due to this, the various fire agencies have grown at their own pace, many times independently of each other. All of the area fire agencies recognize that regionalization is the key to providing a comprehensive and efficient emergency service delivery system for the Greater Flagstaff Area in the future. The most likely vehicle for establishing regionalization is the Ponderosa Fire Advisory Council. The council can provide the mechanism by which fire agencies will be able to decide common goals, set performance standards, and identify needed resources.

The construction of the new jail and public safety facility will place the City of Flagstaff Police Department and the Coconino County Sheriff's Office under one roof. This will greatly assist in regionalizing emergency dispatch. It is anticipated that in time the current remoteness of the fire district system will diminish as the system expands into all areas of the city to a greater degree. The growth of the Greater Flagstaff Area will continue to create pres sure on the fire agencies to look at response plans, common training, joint purchasing, construction of new stations, and the creation of a better-organized emergency service delivery system.

Fire protection in some of the unincorporated areas of the county is administered through individual fire districts, which operate independently of the county. There are eight different

districts in the *Regional Planning* area, and each is funded through fire district taxes and plans for its future needs individually.

Several of these districts contract with the City of Flagstaff for fire protection. However, due to limited resources, the City Fire Department no longer provides new contracted services beyond the municipal limits. When already-limited fire resources are deployed on events in the county, the City's protection system is seriously depleted. This is especially true when consideration is given to the fact that there are only 7 total units and 25 firefighters on duty at any given time. The City system can be further depleted when emergency medical calls are received and simultaneous emergency events occur.

Existing deficiencies and projected needs for fire protection have been outlined for the *Regional Planning* process by the City of Flagstaff Fire Department with the assistance of the Ponderosa Fire Advisory Council, a group composed of area fire districts. There are several county areas that are without fire districts and are considered areas of deficiency due to the lack of basic fire protection services.

The City's Fire Department has prepared a Community Fire Protection Analysis, which provides urban levels of protection and accompanying response standards. Suburban and rural levels of protection and response standards have not been developed and need to be developed before a fire protection system can be designed. Deficiencies could possibly be mitigated with a regional approach of delivering fire protection services. This would involve all area governments to collectively seek a solution that would correct certain deficiencies. Needs and deficiencies outside the urban area must be identified by county service providers.

County fire districts could develop "suburban" and rural performance standards for unincorporated property. The desired number of apparatus or firefighters necessary to meet acceptable suburban and rural performance standards has not been determined. Nonetheless, deficiencies have been noted and fire stations proposed, as shown on the Fire Protection Systems Map, in accordance with Community Fire Protection Analysis performance standards.

Wildland fire protection and response is addressed by fire cooperators in the region through Ponderosa Fire Advisory Council mutual aid agreements. These cooperators include two of the major landowners in the area—the U.S. Forest Service and the Arizona State Land Department.

Proposed Improvements

Researching a regional-type approach to fire services that would build upon the many partnerships that already exist has been proposed for the future. The concept of a systems approach to community fire protection is desirable rather than a piece-by-piece infrastructure approach. However, political concerns and the concerns of micro-communities need to be considered. The FMPO boundary could potentially serve as a jurisdictional boundary for a regional system. Most (approximately 66%) of the anticipated infrastructure (stations) currently exists. What would have to be worked out is apparatus acquisition and human resource assessments.

Within the city, current deficiencies exist in the area north of the Flagstaff Medical Center, the Switzer Canyon Area, and Shadow Mountain. The City Fire Department believes that it is possible to bring those areas within the city's response time standards by relocating Fire Stations No. 2 and No. 5. Future fire stations needed based on current standards are indicated on the Fire Protection Systems Plan Map and include the following:

- Commensurate with urban standards, Fire Station No. 2 needs to be relocated farther north.
- Fire Station No. 5 needs to be relocated farther south.
- Fire Station No. 3 could be relocated eastward in conjunction with a new training facility.

The proposed fire station location at the intersection of Woody Mountain Road and West Route 66 is intended to serve as a City of Flagstaff fire station. This location was selected because response from Fire Station No. 1 at 400 South Malpais Lane is beyond the performance standards listed in the Community Fire Protection Analysis (October 1998). Additionally, the West Side Study Area is also beyond the "balance of assignment" performance standard. Therefore, the majority of the West Side Study Area is considered to be an unprotected risk at this time.

There is a fire station planned for the Bellemont area within the newly formed Parks/Bellemont Fire District. This is to be located at the I-40 interchange area.

In addition to the above, areas where new development will be located will need appropriate infrastructure (roads, water supply, fire stations, apparatus) and human resources to provide fire protection services.

Public Safety Protection: Police Department

The Flagstaff Police Department provides law enforcement services for the City of Flagstaff. As of 1999, the Department is authorized for 93 police officers and 42 civilian staff. The Flagstaff Police Department operates out of a main station in Downtown Flagstaff that will be relocating in the year 2000 to the new co-location Sheriff's/Police Facility on Butler Avenue. The department also operates two neighborhood stations. These are operated in association with the Flagstaff Housing Authority, one located in Siler Homes and the other in Brannen Homes.

The City is responsible for operation of the 9-1-1 system for the Greater Flagstaff Area and dispatches fire and emergency medical services for the city and rural districts. The department is equipped with a variety of equipment including 34 patrol cars, a tactical operations van, a DUI van, and a bomb robot and trailer. The department provides mutual aid assistance to the NAU Police Department, Coconino County Sheriff's Department, and Arizona Highway Patrol. The City provides no jail facilities.

Public Safety Protection: Coconino County Sheriff's Office

The Coconino County Sheriff's Office provides law enforcement services to all unincorporated areas of the county. The Sheriff's Office also serves civil process, conducts all search and rescues, and operates the County Jail.

The Sheriff's Office main facility is currently located in Downtown Flagstaff, with substations throughout the county including Page, Williams, Tusayan, Tuba City, Sedona, Blue Ridge, and Forest Lakes. In addition to these substations, the Sheriff's Office has deputies assigned as Community Officers in Kachina Village, Munds Park, Doney Park, Doney Park East, Parks, Kaibab Estates, and Timberline/Fernwood.

The Sheriff's Office presently operates its own dispatch center and is the secondary 9-1-1 answering point for the Flagstaff area.

A new co-location 350-bed jail is under construction, along with a new holding facility in Page. Also, a new administrative office is currently being built in conjunction with the Flagstaff Police

Department adjacent to the new jail. A new juvenile detention center is also being planned for the site. The new jail is projected to be completed in December 1999, with move-in scheduled for early 2000. The Sheriff/Police building is scheduled for completion on July 1, 2000.

Joint Public Safety Training Facility

The Flagstaff Area fire community presently trains at the Flagstaff Fire Department Drill Tower and Training Area facility located at Fire Station No. 3 on Railhead Avenue. New residential construction in the area adjacent to the facility will affect the department's ability to train at night and limit the use of smoke and hose streams; therefore, a new site and facility is needed. The facility would include a multi-purpose, multi-agency training complex. Such a facility would include a burn/drill tower, propane props, shooting ranges, a driver training course, classrooms, an auditorium, and possibly an emergency operations center.

Maps

The *Regional Plan* consists of maps with explanatory text derived, to the maximum extent possible, from the policies contained in the Plan. If there is a conflict between the maps and the policy statements, the written text shall prevail.

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